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Edited by ALBERT LEONARD

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COLLEGE-ENTRANCE ENGLISH.

Teachers of English in both college and secondary school should not overlook the bulletin on College-Entrance English recently issued by the Regents of the University of the State of New York. This bulletin has been prepared by Dr. Richard Jones, who was appointed more than a year ago inspector of literature for all the schools under the supervision of the Regents. With a view to ascertain what kind of preparation in English the colleges require for admission to the freshman class, Dr. Jones has made a careful study of the examination papers set by the leading colleges in different sections of the United States. There is, as is well known, a substantial agreement among the colleges as to the texts upon which the entrance examinations are based, but a study of the question-papers given in this bulletin discloses a great diversity of opinion among the colleges as to the nature and extent of the preparation upon the texts required for entrance to college. For a good many years college men have lamented the poor teaching of English in the secondary schools. At an educational meeting, not long since, it was asserted by a college professor that the "one defect of English teaching in our schools is its unrelatedness, its disjointedness, its vagueness of aim, its uncertainty of method," and further declared that "what the colleges desire in the work of the secondary schools is unity of effort and harmony of method." Principals of the high schools were urged to bring their courses in English "into consonance with the college systems," and to get into "harmony with the spirit of the English work being done now in institutions below you, above you, around you." In the light which the publication of the examination papers from the various colleges throws on the question, one is naturally led to the conclusion that what is needed first of all is "unity of effort and harmony of method" among the colleges themselves. It is not easy to see how the secondary schools are to get into harmony with the college systems so long as scarcely any two colleges demand the same kind of preparation in English.

A DIVERSITY OF OPINION AMONG COLLEGE MEN.

In the study which Dr. Jones has made of the requirements of thirty or more of the leading colleges and universities, he shows how impossible it is for secondary schools under existing conditions to meet satisfactorily the requirements made of them. "Vagueness of aim" is not altogether absent from the questions submitted by several institutions, though for the most part the question papers show definiteness of aim. But even though the aims of the individual colleges in their entrance requirements may be perfectly definite, there is so great a diversity among the colleges collectively considered, that it is a difficult task to fit intending students even fairly well for the various kinds of entrance examinations. It is not to be expected that there should be absolute uniformity in the admission requirements of the thirty or more colleges represented in this bulletin, but it seems to us reasonable to demand that the adoption of uniform texts ought to be followed by a reasonable uniformity of aims and methods of study, and college men ought to understand more fully than they do at present that one of the first steps toward the better teaching of English in our secondary schools is a consensus of opinion among the colleges as to the nature of the study of literature in schools of secondary grade. Professor Thurber, of the University of Chicago, puts the case rightly when he says that secondary teachers are ready and willing to do any reasonable thing, and even many unreasonable things, but they cannot do all sorts of reasonable things at the same time.

FUNDAMENTALLY DIFFERENT METHODS SUGGESTED BY THE COLLEGES.

Lack of space prevents a full statement in these columns of the radically different methods of study suggested to the secondary schools by the questions used by the leading colleges and universities. In fact these differences cannot be well shown unless the lists of questions are compared side by side. Harvard and Yale, for example, insist upon radically different methods of study upon the uniform texts. It is suggested to English teachers by Harvard that these texts "should not be studied word by word, or line by line, as if they were in a foreign tongue. Attention should be fixed, not on unimportant details of substance or of style, but on the significance and the spirit of the whole. In studying a tragedy of Shakespeare far less time should be given to the discussion of details than to the march of events, the play of character, the main lines of the plot, the significance of the whole as a work of genius." Yale, on the other hand, asks for a more minute knowledge of the details of the uniform texts. As a consequence, a student who might be able to pass a creditable examination for admission to Harvard would be conditioned by Yale. Correctness of English would count for less in the estimation of the Yale examiners than a minute knowledge of the details of the prescribed texts. Among the colleges insisting upon a "word by word" preparation on the college-entrance English are Columbia, Yale, Union, Brown, Johns Hopkins, Chicago, and Stanford. Besides questions based on the uniform texts, question-papers set by these institutions call for other linguistic attainments, such as a rule for the correct use of *shall* and *will*, or illustrations of the correct use of words not found in the prescribed texts, or parsing, or the correction of examples of false syntax, or answers to questions on formal grammar and rhetoric and the like. Among the colleges which ask no questions whatever on the meaning or the use of individual words are Harvard, Cornell, Wellesley, Williams, Indiana, Syracuse, Pennsylvania, and Dartmouth. The examination papers of these colleges call for no definitions, no etymologies, no interpretation of difficult passages. While these institutions may be divided into two general classes as regards the nature of their entrance requirements in English, there are, however, essential differences between the questions of the institutions in each group. These minor diversities only increase the difficulty of the problem confronting the secondary school, and so long as this state of things continues, students will come to college with inadequate preparation in English. In directing attention so effectively to the question of college-entrance English, Dr. Jones has performed a most useful service.

PEDAGOGY AS A SUBJECT OF UNIVERSITY STUDY.

The increased provision which is being made for the study of education in the colleges and universities of this country is sure to work profound changes for the better in our system of education as a whole. In spite of the fact that pedagogical instruction has long been given in the universities of Germany, it is only within the last dozen years or so that chairs of pedagogy have been established in the leading universities of the United States. At first the department of pedagogy was either openly opposed or regarded with indifference by the other departments, but we have already passed beyond that stage of development, and opposition to pedagogical instruction in our higher institutions is now looked upon as an unmistakable sign of narrowness of view in educational matters. Ten years ago Dr. Edmund J. James made an elaborate argument for including the subject of education as a constituent part of the curriculum of our higher institutions of learning. It was necessary at that time to plead for the recognition of the scientific study of education in our colleges and universities, but to-day the question as to the necessity of training in pedagogy as an essential part of the college student's preparation for teaching is as far above argument as is an axiom in mathematics. College men are now ready to concede the fact that the study of pedagogy can be made to contribute to culture ends scarcely less than the other subjects in the curriculum, and for this reason students not intending to teach are beginning to avail themselves of the advantages of the training furnished by a wisely planned course in theoretical pedagogy.

THE SCOPE OF COLLEGE INSTRUCTION IN PEDAGOGY.

Although there is now a substantial agreement as to the nature and extent of the instruction given in the department of pedagogy, there is a feeling in some quarters that the approach to the discussion of educational theory and practice is by way of psychology and child-study. However plausible this view may appear, it is our judgment that the sounder method of approach is by way of the history of education, with the thought in mind that the history of education is the field of human culture itself. It is clear, then, that the history of education should be studied in connection with the history of philosophy and the history of civilization. To secure that breadth of view which is the very essence of culture and which is so important to the teacher, it seems necessary that the relation existing between the three subjects, history of philosophy, history of civilization, and history of education, should be distinctly emphasized in the course in pedagogy. The student studies "the history of philosophy as the self-knowledge of each age; the history of civilization as the processes of bringing into clear consciousness the fundamental assumptions which each age makes about the universe and man and their relations to each other; the history of education as the history of the institutions by which each age undertakes to realize its ideal, and by which, in part, its ideal is modified." The primary aim of university instruction in pedagogy is to train young men and women to deal with educational problems in a broad and scientific manner, and for the realization of this aim it seems to us that great stress should be laid upon the history of education. While studying the history of education in the way suggested above, the more practical aspects of the subject should not be overlooked. It should be the aim to utilize whatever the study of educational systems and doctrines offers in the way of guidance. Psychology, as the basis of the pedagogic art, should, it need hardly be said, have an important place in the work of the pedagogical department, for all methods of teaching that are to be worth anything must rest on the laws of mind development. An acquaintance with the methods and results of physiological psychology is absolutely necessary. Experimental psychology, and particularly the study of children, with a view to enlarge the intending teacher's conception of mind, should have considerable attention. As some of our most difficult educational problems can only be solved in the light which more extended research in the field of child psychology will bring us, it is exceedingly important that every college course in pedagogy should provide training in this phase of psychological investigation. In the study of psychology the work should be directed toward specific and definite ends, so as to enable the teacher not only to gather for himself a large amount of original data, but also to use these data in such a way as to make substantial contributions to practical pedagogy.

INSTRUCTION IN METHODS.

While it seems clear that college instruction in pedagogy should include attention to the more practical side of educational work, nothing further should be attempted than a discussion of the recognized principles of general method. Instruction in the best methods of teaching particular subjects should be given in a course of lectures by professors in the various departments of the university, for in the nature of the case the man who ought to be the best qualified to give instruction in methods of teaching Latin is the man who by virtue of his attainments is teaching Latin. The man best qualified to speak regarding the educational value of history, for example, and to suggest methods of teaching it, is the professor in charge of this department of the college or university. It does not follow, it must be conceded, that because a man knows history he knows how to teach it. Dr. Edmund J. James said some years ago that the instruction in colleges is in the majority of cases decidedly inferior to that in the public schools, and Dr. J. P. Gordy, one of the keenest thinkers in this country, assigns as a reason for this the fact that college professors have given so little attention to pedagogy. But in general it is safe to assume that this condition of affairs is steadily improving and that college professors are coming more and more into acquaintance and sympathy with the educational methods approved by scientific pedagogy. By a series of lectures on the methodology of the various subjects in the colleges course the work of the department of pedagogy can be effectively supplemented, and the graduate from college will be enabled to begin his work as a teacher with well-defined methods of teaching the languages, history, mathematics, and science.

DO WE NEED ANOTHER UNIVERSITY?

The creation of a national university, to be located at Washington and to have an ample equipment furnished by the general government, seems more nearly a realization at the present time than seemed possible when the movement for such an institution was first started. Whether we need a national university, is a question that may well be asked. In view of the number of highly endowed institutions we already have, many persons will be inclined to answer in the negative. On the other hand it may be said with truth that the facilities for original research are still quite limited in this country. Clark University is doing excellent work in extending the boundaries of human knowledge, but lacks the necessary endowment to carry on investigations in more than four or five departments. If, therefore, a national university can be so managed as to supply this deficiency, there is certainly an unfilled place for it. It ought not in any degree to duplicate the work of existing universities, but should receive as students only men and women who have graduated with distinction from colleges and universities as at present organized. If we are to have a national university, it ought, above all, to be well provided with a large number of fellowships to be granted only to persons who have already demonstrated their capacity to increase the realm of knowledge by striking out in new paths. The holders of these fellowships ought not to be compelled to remain continuously at the university, but should be permitted to pursue their researches in any part of the world that promises important results. There is no doubt that we have all the teaching universities we need, but there is still a large unoccupied field for those who are competent to work without the aid of a teacher or guide. If the proposed national university ever becomes a reality, we hope that it will be on a sufficiently high plane not to duplicate the work that is already well done in more than a dozen places. By securing the services of the largest and most competent body of scholars and scientific experts in the world the university could justify its existence; otherwise the cause of education would not be served by the establishment of a national university.

Miss Burt's plea, nearly ten years ago, for the reading of translations of such classics as the Iliad and the Æneid in the grammar school was not heard with favor by the majority of teachers and superintendents. But since that time it has been demonstrated that grammar school pupils read these literary masterpieces with surprising interest. Superintendent Balliet, of Springfield, Mass., has just selected Bryant's translation of Homer's Odyssey for use in the grammar schools of that city.

THE PURPOSE, SCOPE, AND METHOD OF CHILD-STUDY.*

I.

Whatever philosophy of the universe one may hold in our day there will doubtless be a place in his creed for the doctrine that life in all its varied phases as we see it in our midst is the result of a long process of evolution which is by no means yet completed. In a spiritual as well as in a physical sense there is a constant unfolding from lower and simpler to higher and more complex forms in the realization, as Darwin would say, of a more perfect adaptation to environment; or as Tennyson would say, in the attainment of some far-off divine event. Mr. Spencer, Mr. Kidd, and others have shown, it seems, that the race has progressed to its present stage in civilization through a long struggle, out of which from time to time have sprung forth new institutions and modes of life which have enabled the race to attain nearer to its ideals. One of the latest of these achievements, which has accomplished so much to promote the material prosperity of humanity, has been the application of the inductive or scientific method of investigation to the study of nature. It has probably always been recognized by even the most benighted people that human life is conditioned by natural laws; but for unnumbered generations the race was content with such an understanding of these laws as could be derived by incidental or even accidental observation and inference. But in conformity with the principle of evolution it became necessary that physical phenomena be better understood in order that man might adapt himself to their modes of action, and might control them to his own advancement. So a few centuries ago the inductive study of nature, wherein there was to be explicit observation and experimentation, was introduced by Bacon, and this method of research together with the results attained thereby have already profoundly influenced modern life. The inductive mode of investigation which was at first applied only to the study of inorganic nature was applied by Spencer and others a quarter century ago to the study of biology; and more lately still it has been employed in the pyschological laboratories in the study of mental phenomena.

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* A paper read before the New York State Society for Child-Study, at its first meeting in New York, July 1, 1897.

In the evolution of any people there comes a time when they realize that progress is dependent upon the systematic education of childhood, and institutions are established to accomplish this purpose. Education in this sense has been considered in the past to consist in imparting to the youth of any generation such useful knowledge as preceding ages have discovered at a cost of much trial and suffering. This conception of education does not take account of any essential differences between the child and the adult, and the instruction of the latter would proceed in substantially the same way as that of the former. The next step in the progress of a people is to realize that the development of an individual comprises something more than mere growth in size; and the adult is more than and different from a grown child. If our education, then, would be most effective in leading the young to realize more and more fully the ideals of the race, we must know what the laws of the development of childhood are, and must base our training upon these. This idea seems to be gradually disseminating itself in the minds of men to-day, and its embodiment in practical, active form has received the term child-study. There is a consciousness, not clearly defined, however, that the mental and physical development of an individual from birth to maturity is in obedience to definite principles of growth, and we may gain acquaintanceship with these only by concrete, inductive study in the same way that we have obtained a knowledge of the operations of inorganic nature.

Child-study represents, then, first and foremost an effort to apply the inductive method of investigation to the study of child development. One hears now and again some criticism of this movement, maintaining that it is not new, and that it has nothing in particular to accomplish, since the race has always studied its children and has based its training upon their needs and capacities at various stages in their development. It must of course be true that children have always been studied in a way, and that there has been some effort made to treat them in a manner conforming to their powers and interests. Chamberlain has shown us that even in the most savage homes among every tribe and people the child is recognized as differing in some important measure, be it ever so little, from the grown members of the family or community. In the literature of Greece and Rome, as Scudder says, there is frequent reference to the training of children based somewhat upon a comprehension of their needs and capacities. And as we come nearer our own day we may point to Frœbel, Pestalozzi and their disciples in evidence of the fact that children have in reality been studied before the present decade in the development of the race. But all this study has been principally of an incidental or intuitive kind, just as before the time of Bacon nature was studied intuitively. Bacon and his followers did not have to discover *de novo* the whole universe of physical laws. The experiences of the race had already established a considerable body of scientific knowledge; but the apostles of the inductive method, accepting what had already been accomplished, went forward to add a vast deal more and to show that much that had been implicitly believed and acted upon was false, since before the advent of this method the pseudo sciences of the Middle Ages, as chiromancy, alchemy and astrology, held far greater sway over the people than did the exact sciences.

So in the study of the development of childhood it is the purpose now to make scientific what has heretofore been only ago the inductive study of nature, wherein there was to be explicit observation and experimentation, was introduced by Bacon, and this method of research together with the results attained thereby have already profoundly influenced modern life. The inductive mode of investigation which was at first applied only to the study of inorganic nature was applied by Spencer and others a quarter century ago to the study of biology; and more lately still it has been employed in the pyschological laboratories in the study of mental phenomena.

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So in the study of the development of childhood it is the purpose now to make scientific what has heretofore been only intuitive. We hope to reach out into fields that have never been explored, and it may be possible to show that some things which have been believed and practiced to the hindrance of healthful child growth have been built upon unstable foundations. But in this aim there is no disposition to ignore or belittle what the present has inherited as a legacy from the past. Rather receiving this and cherishing it most highly, we will push on and add to it and modify it only as the fulness of new knowledge seems to warrant. This scientific temper of mind is always a conservative one, moderately but not immoderately so; for the duty to push on and annex new dominions of knowledge to that bequeathed us as a result of efforts of our ancestors is as binding upon us as to conserve sacredly that which we have received. To repeat, then, child-study stands in the first place for the scientific investigation of all problems respecting the growth of human beings from birth onward. It purposes to marshal all the sciences that relate to human life to aid in this great undertaking. It has in view not only to discover how the child develops naturally if left to himself, but what effect various educational agencies have upon that development, either in hastening it toward a desired end, or retarding it, or diverting it into wrong channels.

There are those who feel that any attempt to thus study childhood scientifically must result in doing violence to the spiritual nature of the one studied, and in stifling the sympathies and affections of the investigator. We all have the feeling, which is surely a wholesome one, that the soul of man transcends the possibility of being revealed in its essence by scientific studies, and we dread to have the word scientific applied to anything relating to matters spiritual, as though there was some irreparable conflict between the truth which science gives and that which resides in the human soul. But if any are thus afraid they may dispel their fears, for in so far as child development, physical or spiritual, is not dependent upon laws it cannot be determined by scientific study;

but to the degree that it is thus dependent it is most important that we know what these laws are. If we did but realize it, we are all scientists in a way with our children. We know that certain modes of treatment will invariably produce characteristic results. For instance we have observed enough of the uniformity of law in child development to see that evil companions corrupt good manners, and that a deceitful parent begets a deceitful child. In our daily contact with children most of us try to ground our behavior, unconsciously many times perhaps, upon a knowledge of the fact that one kind of conduct will universally be beneficial, while another will as certainly be detrimental. Now it is to make these laws explicit, to greatly extend them, and to correct erroneous ones that is the proper field for scientific child-study. No greater injury can be done to the spiritual nature of the child by such scientific study than is done every day by the parent or teacher who carefully calculates in his methods of dealing with his children what the effects will be. There need be no fear, then, that an earnest, sympathetic attempt to discover how the child develops and how various agencies influence him will have any other effect than to make our dealing with him more rational, and so more beneficial.

Nor will it lessen the sympathy, the love, the reverence for childhood. Knowledge does not take the warmth out of the heart; nor does ignorance cultivate the higher and more beautiful emotions. Is it not rather the case that those who see most clearly into the nature of child life, are those who love it most dearly, and who have the most profound reverence for the mystery there entombed? Ignorance breeds indifference, leads one to take everything as a matter of course, does not awaken the deeper emotions of the soul. Ignorance of nature does not increase one's love for nature, but rather "To him who in the love of nature holds communion with her visible forms, she speaks a various language; for his gayer hours she has a voice of gladness and a smile and eloquence of beauty, and she glides into his darker musings, with a mild and healing sympathy, that steals away their sharpness ere he is aware." So in the study of child-life, the more fully and truly we enter into it, the deeper, the richer, the more effective, will be our sympathy. As the knowledge of nature only increases the mystery of her ways and constitution in a certain sense, so a profounder knowledge of child-life only magnifies our wonder and our reverence, and our sense of gratitude and of responsibility.

II.

Child-study has another aspect which is not less important but rather more so than this first. As an outcome of modern psychology we are beginning to appreciate as we have never before that every individual is the product of many factors which give him a distinct personality—which determine his needs and which limit his capacities. It was at one time believed, and is still held by some persons, that every child could be made like every other child in intellect and temperament by proper instruction and discipline. One may even now hear teachers speak of a pupil who does not make satisfactory advances in the studies of the school as dull or stupid or lazy,and it is often believed that these conditions may be remedied by sufficient punishment. And if a pupil does not conform graciously to the regulations of the school his will is thought to be perverted and it can be changed only by a generous use of the rod. But an era of more rational things in education is being ushered in, and it is being appreciated that when a child is dull or vicious or exceptional in any way, there are definite causes which must be removed or modified in order that his nature may be changed. We have, then, a need for the study of individual children in order to ascertain their peculiar needs and capacities as an essential condition for their proper instruction and training; and this is perhaps the most important field of child-study. Every science has its phase of application where its laws are applied to particular conditions; and the science of child-study, if we may say that there is yet a science, has as its ultimate end the intelligent training of individual children in home, church, and school.

In some way the opinion has gained wide acceptance that child-study has for its single purpose the discovery of the laws of child development; that it is of concern to no one but the psychologist, the physiologist, and the anthropologist; that it has to do only with the amassing of statistics, with measurings and weighings and other cold-blooded and technical performances. Doubtless at the beginning of any science the most important requisite is to amass data upon which the science is to be reared and hence the emphasis put upon the scientific phase of child-study. Then it is sometimes thought to be a mark of greater scholarship to be employed in developing a pure science than in adapting its results to human needs. If this be ever true it certainly is not so in the field of child-study. It surely does not require greater open-mindedness, or insight, or talents of any kind to elaborate a law of child-growth than to analyze the true nature of an individual child and so to determine how he should be dealt with most wisely. This latter task indeed demands the most consummate skill; and where is there another undertaking which involves so great responsibility? The parent and the teacher are pre-eminently the ones who should be interested in this latter phase of child-study. They do not care about the scientific side only as it bears directly upon the problems of training in showing how each child should be dealt with appropriately in home and in school. In our day every individual is deemed worthy of the most careful attention. All the influences at our command must contribute to his highest development. Unlike the farmer who cares little for any particular stalk in his corn field, the parent or teacher cares everything for every plant whether weak or strong in her child garden. How essential then that those of us who train children should be able to determine to the greatest degree possible what their individual needs are!

III.

The term child-study has not been a happy one in all respects to designate this movement, since it has been interpreted to relate principally or wholly to the period of early childhood. As a result the interest and attention of teachers in secondary and higher education have not been enlisted in any effective degree. There has been a noticeable tendency on the part of high school and college teachers to refrain from manifesting any enthusiasm in child-study, as though their pupils did not need to be studied after they passed the elementary school; or as if the teachers of these older children had some subtle power of determining the true nature of childhood which rendered it unnecessary for them to ally themselves with a movement of this kind. This is the more remarkable since it is being generally recognized now that the high school and early college period constitute the most vital years in a child's life. While perhaps not much of value to teachers has yet been established by science respecting the period of adolescence, still it is at least certain that it is a time of rapid development, fluctuation, and uncertainty.

This is probably the period where there is the least adaptation of instruction to the real needs and capacities of those being taught. Secondary and higher education seems to have responded very slowly if at all to the effort to determine and conduct studies and discipline according to the needs of pupils. Rather the chief energy of the teachers of these older pupils has been given to developing scientifically subjects of instruction; and scholasticism has been and still is exalted above everything else. We know how during the Middle Ages, and until a late period after the Renaissance, scholasticism was deified even with the youngest children. The wise men of those days maintained that if the child did not natively have a love for abstract knowledge, and that logically presented to him, why he ought for his own future well-being to be constrained thereto from the outset. There seems always to be the danger that teachers will give more heed to developing the subjects they are teaching formally than to adapt them to the children being taught; and while in elementary education this has been somewhat mitigated it appears to continue unmodified for the most part as you ascend the scale of grades in our educational system.

It is not alone the teachers of older children who have thought that child-study did not concern them, but parents have held a similar opinion. It is a significant fact that the membership of mothers' clubs rarely includes those whose children have reached the high school. A well-known high school principal in this State said recently that he could not arouse interest enough among the parents of his pupils to form a mothers' club, although there were many such clubs in connection with the kindergartens and primary schools of the city. It should be one of the most important missions of this society to lead parents and teachers to realize that child-study relates just as fully and vitally, possibly more so, to the child of thirteen as to the child of five or six. This is one of the very richest fields for investigation at the present time, but the one in which there are the fewest investigators.

Again, there is no phase of school work in which there is such a necessity for the study of *individual* pupils as in the high school and college. Before this time the factors which determine the individuality of children have not attained their full influence, and so have not differentiated pupils to such a degree as in later years. And then, too, it is now generally recognized that at adolescence inherited tendencies that have lain dormant up to this time crop out and have the effect to further distinguish the personality of every pupil. It is an encouraging sign of the times that some high schools now make a careful, sympathetic study of each pupil when he enters the school, and at stated intervals thereafter. It would be a blessing to tens of thousands of students if the spirit out of which such work springs should fine lodgment and cause fermentation in the high schools and colleges all over the country.

IV.

In the elaboration of any science one of the most serious problems is to devise practical and reliable methods of investigation. Scientific method always demands two things: first, an abundance of data; and second, this data must have been accurately obtained. In the sphere of child-study these conditions are particularly hard to be realized on account of the nature of the materials dealt with. While physical objects and phenomena may be experimented upon concretely and indiscriminately, such liberties may not be taken to any great extent with human beings. The problem is such an intricate one for science that people have despaired of ever solving it in the psychological laboratory. The child-study movement has been derided more for the methods of study pursued by some investigators than for any other reason. There recently appeared in the *London Journal of Education* an account of the way a father, inflamed with the ambition to contribute to the science of human development, set out to study his little child. He first secured a long list of disagreeably tasting stuffs and proceeded to try each one upon his child so as to observe the character of his reactions. The first test produced such vigorous results, both on the part of the child and its mother, that the father could not describe them with scientific accuracy and he decided he had better try the other senses. Having a similar experience all round, he finally gave up child-study in disgust, and generously berated the whole movement, as did all his friends and neighbors who had heard of his adventures.

A short time ago a well-known educationalist in our own country who has enlivened the Middle West for a decade or more by his caustic wit aired his knowledge of the child-study fad in one of our prominent educational journals. He was anxious, so he represented, to keep abreast of the times and so procured weighing machines and all sorts of costly apparatus for his schools, and went to work at his children. With one machine he tried to discover just what influences were left over in some troublesome young urchins from their anthropoid ancestry. With another machine he proceeded to analyze the nature and intensity of the feelings which a pupil had when he was clubbed by his teacher. So he busied himself for a long time with many profound and interesting problems; but after a great deal of experimentation he concluded that he had better stick to the old ways, and he hinted that it might be well for others to do so too. Some people who know nothing about child-study except by hearsay, and that in the most roundabout way, feel toward it about as this western wit apparently does. But this is only an incident of the movement, and is not a whit different from or more discouraging than the experiences which have attended the development of all sciences. It is doubtless true that some of the methods which are exploited are valueless or possibly harmful, but no danger need be feared from these. Nature always produces prolifically, and then in the struggle for existence only the most worthy survive. So in child-study; many things will spring forth that are unfit, but their life will be ephemeral in the relentless struggle that is always on to find the best and truest in every concern of life.

It may be well to mention briefly some of the methods which in the hands of competent persons have already given us reliable data. There is first the biographical method employed by Preyer, Perez, Miss Shinn, Bowditch, and others, wherein the development of a child is observed for a considerable period of time, and the principal facts of his growth noted. The studies made thus far by this method relate in the main to very young children, but we would be greatly benefited by having them carried on with older children. Malling-Hausen, Landsberger, Bowditch, and others have studied a number of children for quite a long period of years with the one purpose in view to ascertain periods of physical growth, but we need studies to show if there are regular periods in mental growth, in the appearance of predominant interests, and so on. Then there is the method employed recently by Dr. Stanley Hall in his syllabi covering various phenomena of childhood, as anger, fear, etc., the data upon which are to be gained from parents and teachers. In the third place there is the syllabus method devised, I believe, by Barnes, which gives a number of questions calling for tests upon children, the questions to be answered by teachers. More lately Professor Barnes has had children write essays upon some topic involving their ideas of time, of justice, and so on; or he has asked them to illustrate some story by drawing, and then the essay or drawing is examined. Fourth, there are the studies upon growth by weighings and measurements of the whole and different parts of the body. Fifth, there is the truly scientific method of study with delicate apparatus in the laboratory to discover, speaking generally, the character of children's reaction upon stimulus under different conditions, as in a state of fatigue following upon either physical or mental effort, readiness in learning letters as contrasted with words, and so on. These methods are not designed at all for teachers and parents; and much of the criticism of child-study has resulted from a misunderstanding as to how scientific data were to be obtained and who was to secure them. The business of a teacher or parent is not to rear a science of child-study, or to furnish to any great extent the data for such a science, for two reasons: first, they have not the time or opportunity; and secondly, they have not ordinarily the scientific training which would make their observations of great value.

Finally, we have the study of the development of the brain, showing the manner and order in which the physiological bases or equivalents of the child's powers begin to function, and what effect different educational processes have upon cerebral growth and modification. Thus it has been satisfactorily shown by this study, it seems, that the organic basis for reason is an abundance of sense percepts which as the child develops get associated together through associative fibers. It is not only useless then but probably an injury to a young child to try to get him to reason in grammar or arithmetic before he has had a great deal of work in nature study, literature, and other concrete studies.

As there are methods in the gathering of data for the scientific side of child-study, so there are methods for the practical or individual side. In the first place, tests may be made upon the senses of individual children to discover if there are any defects which would impair the health or interfere with work. A great deal of this sort of study has already been made in the schools of the country. Again, there may be simple tests to discover the general brain condition of each pupil, practical methods for which are indicated in Dr. Francis Warner's excellent book upon the study of children. The brain condition determines of course the intellectual and temperamental characteristics of the individual. For instance, one child may be found to give forth a great deal of energy upon the slightest stimulus. His reaction will be very much greater than the stimulus demands; while another pupil in the same class and of the same age will react slightly upon the same stimulus, perhaps not as much as the stimulus would warrant. Here are two types contrasted with each other whose characteristics are determined by fundamental physical conditions. Of what infinite value should this knowledge be to the teacher in dealing with these two children! So in the same way when a simple task requiring control and inhibition of movement is set two children in the same class, one controls himself admirably in the effort to accomplish the task, while the other shows little power of inhibition, but goes off by explosion, as it were.

Here again are fundamental differences which must show themselves in all the work of the school, and which must explain many problems which constantly perplex and discourage the teacher.

Then there may be studies upon the contents of each pupil's mind when he enters school, upon his home life, the leading characteristics of those who influence him, as parents, nurses, and companions; studies upon his past and present physical conditions,—all of which things condition his intellectual and emotional tendencies and activities in the class-room. Again, one of the most profitable kinds of individual child-study for teachers may be made upon each pupil's success in the various subjects of school instruction. No two subjects require exactly the same sort of intellectual activity —some appealing largely to the senses, others to more abstract association of ideas; some to one sense, some to another; some to the power of reason, as we would say, others to the verbal memory most largely; some to the reproductive imagination, others to constructive imagination. It will make the teacher's work much more effective if she be able to study each pupil in regard to the different studies, determining what special treatment is demanded in individual cases.

V.

It should be the purpose of the New York Society for Child-Study to make use of all good methods in the study of children which while practicable are at the same time thoroughly scientific. And it should distinguish at all times between scientific investigation for scientific purposes and practical investigation for practical purposes. It should recognize that scientific methods require special opportunities and specially trained persons; but when results are reached they should be of definite practical value, and should then be given to teachers and parents and their concrete bearings indicated in as great detail as possible. With the purpose kept constantly in view to thus unify science and practice in every phase of child growth, and permeate all with the truest sympathetic spirit, this Society cannot fail of distinguished success in promoting the rational treatment of children everywhere. M. V. O'SHEA.

Professor of the Science and Art of Teaching,
University of Wisconsin.

SHOULD GERMAN BE TAUGHT AS A LIVING LANGUAGE IN OUR SCHOOLS AND COLLEGES?

In an address entitled: English as a Living Language,* presented to the Modern Language Association of America, at its thirteenth annual meeting, Dec. 26, 1895, the President of the Association, Professor James Morgan Hart, touches a point of such vital moment, as it seems to me, not only for English, but also for other modern languages, that I purpose to indicate, among other things, in the following considerations, the scope of its application to German. In so doing I do not wish to make Professor Hart in the slightest degree responsible for my affirmative reply, to the question raised in the title of my paper. He apparently limits the field of these observations to the student's mother-tongue, committing himself to no explicit extension of their scope. What he says evinces such clear vision, sound judgment, and knowledge of ways and means, as to deserve the attentive perusal of every teacher of language in the country. I certainly know of no more temperate, judicial, and adequate commentary upon the deficiencies noted by the Harvard reports and by educators everywhere, than we find in this address. For it is undoubtedly true that no English-speaking student, signally deficient in sense of language-form can in college or university gain an adequate appreciation of literary form. Too much would have to be learned and unlearned in a time, at best, too short for the multiplicity of other tasks prescribed. Furthermore, language can not be learned, like plane geometry, by the mere use of rules and axioms; otherwise the faith of our secondary schools in the hasty, deductive presentation of the generalizations of grammar and rhetoric would remove the mountains of linguistic ignorance that pretty effectually block the literary path of countless students throughout the country.

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*Pub. of the Mod. Lang. Assoc'n of America, XI, 4—Appendix pp. XI f. Baltimore, 1896.

Some such consideration as this inspires the suggestion of Professor Hart, p. XIV f.: "Take English out of the list of ordinary requirements and treat it as something entering into all other studies and dominating them all. Make English your one general and determining test of all training." Without discussing the wisdom of this suggestion, let us listen to his reply to the imaginary query: "Why should the study of English be thus set on a pinnacle, as it were, dominating all other studies?" "I can answer," he says, "only in the form of a paradox: the study of English should dominate everything else precisely because it is *not a study*, but the acquisition of a habit, of an art, of an indispensable gift. This acquisition cannot be hurried through with a year or less of special 'cram': it implies slow, patient, unremitting effort year after year, under incessant supervision and correction. It is emphatically anything but an easy process for the average scholar. It means appreciation of synonyms in a language singularly rich in shades of meaning but singularly defective in the outward signs by which to recognize them. It means the appreciation of word-order in a language which has little or no syntax proper, in which word-order counts for nearly everything. Above all it means the implanting and cultivation of the sense of form in young persons to whom, or to the greater number of whom form, that is, saying a thing properly and effectively is an unknown quantity."

In this succinct reply to his rhetorical question, Professor Hart states the pith of my own argument for treating German in our schools and colleges as a living language. Just because learning German "is not a study (in the ordinary sense of that term), but the acquisition of a habit, of an art," we cannot profitably teach it deductively, as a ready-made body of scientific classification.

Reserving for later consideration my attempt to justify this extension of the 'art' argument, just cited, I shall proceed at once to my contention that German should be treated in our schools as a living language, by pointing out, in the first place, some of the worst drawbacks connected with all attempts to teach it as a dead language.

Now our students do not approach the subject in the spirit of the professional philologist, and are, therefore, not strongly attracted by the opportunity of analyzing a cadaver, instead of watching the growth of a living organism. German is a living tongue and until we kill it for convenient treatment according to the traditional order of systematic grammar. A language lives and breathes in the sentence; it is in a state of suspended animation in its individual vocables. To begin with the latter instead of with the former is to reverse the process of nature and to sacrifice that keen interest of the learner in whatever lives and moves to a fancied advantage, derivable from rules and categories. It is to duplicate in this field the folly of the teacher of Chemistry, who should insist upon the memorizing of chemical reactions with no previous experimentation.

The fear of being called unsystematic and unscientific by our colleagues in the field of classical philology and elsewhere makes cowards of men, whose experience has repeatedly proven the futility of all attempts to secure satisfactory results in modern language teaching by the use of the classical probe and scalpel. Whatever legitimately increases the interest of the learner in the object of his attention is pedagogically good; whatever decreases that interest is pedagogically bad. By focusing the attention of the student at the outset upon the sentence as an idiomatic expression of thought we induce him to watch the process of thought-growth as manifested in speech; by calling his attention to individual vocables, or, worse yet, to the endings of a paradigm, we impress him at once with the conviction that he has to do with the remains of something, once alive, but now dead, and capable of exhibiting only under the galvanic treatment of transliteration a more or less remote semblance of life. But without that hearty coöperation of the learner born of the joy of self-discovery, the best-equipped teacher can achieve only a very moderate class-room success. It seems, therefore, to be a matter of no small importance whether we begin with the sentence or with the vocable.

But a language lives in the idiom of everyday life in a sense not true of the idiom of literature. It is there that we find the strongest manifestation of the national spirit. In the great republic of letters the individual citizens strongly tend to become cosmopolitan, so that the sentence of literature, in distinction from that of the hearthstone or the marketplace, is but an imperfect exhibition of the peculiar thought-life of a people. Hence it cannot be a matter of indifference whether we begin with the sentence of the home or with that of the international forum. The learner is bound to find the new idiom for a time at least a clumsier vehicle of thought than the one already familiarized to him by years of use; therefore his interest needs to be aroused and sustained by the national, and to him, novel point of view, revealed in the sentence of everyday life. This is a psychological reason why the earliest readings of the beginner in German should be saturated with the idiom of the fireside, where individual language life is most intense.

Again language is not a conglomerate of words at all, but remains a sequence of idioms for the expression of thought, until torn asunder for the purpose of illustrating the rules of systematic grammar. Professor Hart complains in his address of a discouraging indifference to English idiom on the part of American youth. Whether he is right in ascribing in large part this "feeling of impatience toward all form" to "our republican contempt of traditional etiquette" (p. XVI), or not, his remedy for this distressing obtuseness to language-form is, to my mind, entirely sound. In reply to the question as to what he would have the schools do in the premises, he emphasizes (p. XVII) the need of a two years' grammar-school drill in sentence-building, punctuation, and elementary paragraphing, as preparation for four high-school years, devoted to more advanced paragraphing (including consideration of the topic-sentence, unity, sentence-sequence, varying length and quality of the sentence, etc.) and, in the last two years, composition-writing. In connection with and as an integral part of these weekly high school exercises, he recommends the reading and interpretation of at least all the books prescribed for college. There is no ambiguity here about where he lays the chief stress. Certainly not upon mere reading and interpretation but upon theme-writing, where the student deals with idiom from the side of construction instead of from that of mere appreciation. This silence about formal grammar and formal rhetoric and this secondary role assigned to mere reading seem to me a long step in the right direction because they are a timely recognition of the need of treating English in our schools as a living language. Reverence for idiom can be taught only by constant insistence upon idiom, as the very life-principle of the sentence. Moreover, Professor Hart's suggestions assume the great desirability of studying English directly instead of by the way of Robin Hood's barn. Too much of our language work in school has been and still is performed in connection with so-called translations from the classical languages. Slip-shod word-for-word renderings pass unchallenged, "to economize time," so that students naturally infer that the word, and not the idiom, is the life of the sentence. It is one of the baneful effects of analysis not vigorously supplemented by synthesis. In the field of German this failure to recognize practically and continually the function of idiom leads to hopeless floundering and chronic philistinism, as far as the spirit of the language is concerned. It is a natural consequence of linguistic murder at the outset. No amount of facility in transliteration or of dexterity in the explanation of syntactic relations can offset this handicap.

Initial emphasis upon the details of systematic grammar to be illustrated later by comparison with actual speech-usage impresses the student with a false view of language, as essentially a mechanism instead of an organism. Language-learning means, not the mastery of a number of organ-stops, but rather the training of the mind to a series of mental gymnastics, symbolized by speech-signs, until what was at first slow and painful becomes at last like second nature,—rapid and graceful, and capable of organic expansion along the lines of national idiom. Language teachers are engaged in a task no less important than that of instruction in the *art of idiomatic thinking*. Professor Hart says at the bottom of page XIV in his address: "Or is it only a dream of mine, this suspicion that a poor writer is poor because he is a poor thinker?" Here we have a terse, interrogative statement of the vital connection between thought and expression, none the less helpful because in the line with the views of Max Müller, and with obvious bearings upon my plea for the organic in place of the mechanical treatment of language-teaching. Composition remains from the latter point of view a purely external process, like the building of a block-house; from the former it partakes of the organic nature of thought itself. The student is taught not only to recognize the forms of language as the audible or visible embodiment of successive mental states, but to reproduce within himself, as an integral part of his work, the mental sequences thus symbolized. I reserve for a later paragraph a discussion of the advantages accruing from this active discipline of the mind in all composition-work. The latitude of expression, permissible within the limits of German idiom, demands for its gradual mastery, repeated drill in inflection, word-order, synonyms, and the relative values of syntactical forms. This must necessarily be rendered mechanical or vital by the point of view that inspires the treatment. Hence the prime importance of the choice.

But the plea most frequently heard for the retention of the ready-made body of systematic grammar, as the center of foreign-language instruction, is that it economizes time. The champions of this view concede to the main contention of my paper certain theoretical advantages, but urge that life is short and the pressure of school boards a thing to be reckoned with. Hence their preference for a procedure that promises a "short cut." This argument, though not novel in the history of human thinking, contains fallacies that are especially fraught with danger, when addressed to an American public. We Americans believe in "short cuts." We are familiar with their inestimable value in certain material industries, and are quite ready to believe them similarly efficacious in education. Our consciousness of the rapid development of our material resources under the spur of the "short cuts" afforded by modern inventions, renders us perhaps a trifle credulous, when the assurance comes to us, backed by the weight of educational authority, that a certain educational practice affords a "short cut" to the goal. The comfortable incomes, made by native and foreign proprietors of avowed "short cuts" in language learning through sales to the guileless American public, are an earnest of our faith in them. In view of this, I wish to urge that it is quite possible in educational matters generally to be "penny wise and pound foolish," and that economy of time may in language-learning, as elsewhere, be purchased too dearly. Even admitting, therefore, for the sake of argument, the saving of time claimed for the traditional method, I am not prepared to admit the cogency of the objection. Disadvantages like those already cited as inevitably connected with any ignoring of the organic nature of speech would outweigh any compensatory saving of time. But the claim of economy is, at best, only superficially valid. The initial steps will, in case we recognize in elementary language-learning an inductive art, be slower than when we persuade ourselves of the scientific nature of the work. But acceleration of pace will be much greater in the former than in the latter instance. The former conception of the problem and effort at its solution are not static, but dynamic, not mechanical, but germinal. In place of more or less successful attempts to grasp the inflection and syntax of the foreign language, the learner finds the idiom apparently taking root in his own mind, growing there even in his moments of unconsciousness and imbuing him with the very essence of its spirit. Capital thus invested doubles quickly, and, after the first few months of work, the time saving is all on the other side of the account.

Having thus passed in review some of the most obvious disadvantages of the traditional, deductive presentation of the grammatical and rhetorical facts of language, let us consider briefly certain positive advantages, involved in treating German in our schools as a living language, and sundry hints as to ways and means suggested by experience.

We secure, in the first place, an intensity of interest on the part of our students in the subject matter of the course comparable to that of the young botanist in live plants. No botanical instructor of repute would willingly sacrifice the immense advantage of this absorbing interest of the pupil in the study of live organisms to any fancied "short cut," afforded by the ready-made stock of dead classification. Give the boy his microscope, his teacher, and his opportunity, and he will make an herbarium himself one of these days, that will be significant as a register of his own progress. Similarly the student of German, who learns the language as a living means for the spoken and written communication of thought may one day upset some time-honored grammatical generalization through researches prompted and made possible by vivid interest in the subject. At all events, his acquaintance will be more immediate and the resulting absorption of the spirit of the language yield better culture-results than any parrot-like memorizing of half understood paradigms and rules lightly learned and soon forgotten.

Measured by considerations like these, the liberal oral use of German in the class-room receives its adequate and proper justification. Not because of any pecuniary value, attaching to the oral use of the foreign language, but as one excellent means of sustaining the effective interest of the pupil, I emphasize the desirability of speaking German in the presence of the class, wherever practicable, and of insisting upon correct German replies to the daily quiz upon inflection, syntax, meaning, etc. This is entirely consonant with the choice of elementary texts that deal with affairs of every day life, already recommended in the foregoing. Both means vitalize the drudgery of the class-room and secure a measure of spontaneous effort on the part of the learners that eliminates many difficulties that would otherwise seriously hamper the work. Moreover, as Professor von Jagemann pointed out in 1884-5*, the use of German in the class-room largely increases the contact of the learner with the idiom he is studying. He says: "In the majority of institutions with which I am acquainted, by far the greatest part of the time alloted to German is given to translation. After the translation is done, grammatical and lexicological questions are asked and discussed. The consequence is that aside from the reading of the text in German, —and even that is not always done,—the student hears and speaks nothing but English; in other words, for about ten minutes out of a possible fifty, he learns German, the remaining forty minutes he learns facts about German. On the other hand if the instruction be carried on in German, the student will learn German for fifty minutes. * * * * It seems a low estimate if we consider the amount of German the student will hear in each recitation over and above the text itself equal to ten ordinary pages of an easy text; this would be equal to fifty pages a week, or seven hundred and fifty pages for the single fall term of fifteen weeks or two thousand pages for the year of forty weeks."

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* "On the Use of English in Teaching Foreign Languages:" Trans. of the Mod. Lang. Ass'n. Baltimore, 1886, Vol. I, p. 221 f.

What Professor von Jagemann remarked here over ten years ago concerning the omission of all reading and devotion to translation and discussion still maintains in some of the largest institutions in this country. I shall presently have an extended word of criticism of this policy. Returning to the view of von Jagemann, I emphasize the fact that the repetition of the everyday structure of the language, including colloquial vocabulary, particles in constant use, modal auxiliaries, word-order, in principal and subordinate sentence, the various idiomatic uses of the subjunctive mood, and, last but not least, pronunciation and modulation, yields the interested student a practical gratuity nearly equal in extent to his direct conquest. This result, probable enough theoretically, I have obtained repeatedly in actual experience, so that for me, at least, it is no longer a subject of mere speculation. The only plausible objections ever raised against the procedure, to my knowledge, are, (a) that it takes the pupil through a waste of trivial statement before he can use larger and more dignified phraseology, and (b) that it consumes valuable time that might be better employed in dealing with collaterals, likely to be overlooked, when German is spoken in the classroom. The first of these two objections begs the question, for it is incumbent upon those who urge it to show that idiomatic statements in the foreign tongue, so couched as to be perfectly intelligible to the beginner, are trivial, be they ever so simple in form or content. They must show us the possibility of learning to run before learning to walk and make it clear that practice is no necessary preface to mastery.

The second of these objections is partially answered in the words of Professor von Jagemann: "in the remaining forty minutes he learns facts about German." I will add that, in my opinion, the premature introduction of the numerous collaterals, contemplated in this objection, born, as it often is, of linguistic and literary vanity on the part of the teacher, produces in the average student a large measure of the conceit of ignorance and of half information, that greatly retards all his subsequent progress. There are many desirable ends in language-learning that are best attained by being deferred. And surely among these is the knowledge of elaborate linguistic and literary facts incapable of intelligible statement in the language studied. The plea that the course is too brief to yield a more suitable later period for the introduction of these collaterals is like a similar plea for trying to give a child, whose school days end with the high school, a regular university course of research-work before his graduation. It fails to take account of the organic nature alike of the subject and of the student's own mental processes. To avoid misunderstanding, let me state, however, before passing to the next point, that I here urge not an exclusive, but a very general use of German in the class-room. An English word or explanation should always come in to obviate long delays, and individual misconceptions, inseparably connected with class-instruction. The judgment of the earnest and skillful teacher, though constantly taxed, will never be at a loss to decide these points. For such teachers regularly take mental note of the extent and quality of the growing vocabulary acquired by each student under their direction. Skill in thus adapting to the progress of the pupil's vocabulary the instruction offered and the exactions of the daily quiz is indispensable for marked success in this work.

Once more, there is an essential difference between direct and indirect association of ideas. We do not forget that words are in the economy of any language but symbols of ideas. Their function in speech is to suggest to the hearer or the reader the mental pictures for which they stand. Now, since language is primarily a succession of sounds, standing for a sequence of variously related ideas, and the printed page is merely a series of visible symbols of these underlying vocal symbols, we cannot for a moment fail to see that the vocal sign is immediately and the printed word more remotely connected with any given mental state or action. When learning to read we consciously pronounce the individual sounds in sequence, whether our reading be audible or not; and whatever the degree of facility we may acquire in rapidly scanning and gleaning the contents of printed pages, the music or dissonance of the sound-sequence, presented in printer's ink, is always a part of our experience, that may rise into consciousness at any instant. Under the most favorable circumstances the printed page removes us one degree from the mental states of the author, because it consists of signs of other signs of the psychological reality. Hence the desirability of knitting the double symbol into the closest possible approximation to a single symbol. This is a point of prime importance gained by treating German as a living language. For a language lives in sound and is embalmed in hieroglyphics. Furthermore, those who refuse to recognize this in their class-room practice very generally allow transliteration into the student's vernacular (termed by them translation) rapidly to usurp the place grudgingly accorded to pronunciation of the original text in the first few lessons, and thus commit the educational blunder of complicating instead of simplifying the sign-mechanism just described. In place of attempting to identify the visual with the audible symbol, they teach the pupil dependence upon a sign of a sign of a sign. No wonder the learner finds the contest unequal, becomes discouraged, and rarely advances beyond the limits prescribed by the school curriculum. But worse, if possible, than this wholesale discouragement of the pupil is another result of the "visualistic" treatment of German. Literature, unlike the multiplication table, is never altogether intellectual. The share of the emotional nature and of the creative imagination in its production involves, among other things, especially in poetry, but also to a lesser degree in prose, a certain musical quality, a certain rhythm and *timbre*, that are both national and individual. Goethe's and Heine's lyrics are both intensely German, with important individual variations. Their music is one of the most pervasive and characteristic things about them. An adequate appreciation of this essential quality is entirely beyond the range of the mere visualist. For such they become, instead of rare song-birds, mere stuffed and silent museum specimens with glass eyes. The varying gamut of tone in German epic, lyric and dramatic poetry, not to mention artistic prose, is a characteristic feature of the national literary art, as utterly unknown to the visualistically trained student, as are all color-effects to those born blind. Such a grasp of pronunciation as to render possible this musical appreciation is for the foreigner attainable only as the result of patient, long-continued repetition, not of separate sounds nor of single words, but of sentences and parts of sentence, under the equally patient and conscientious correction of the teacher. Besides supplementing this imitative effort of the student by suggestions as to the correct use of the vocal organs, based upon an accurate knowledge of phonetics, the teacher can, in my opinion, render most effective service in merging into one sign the visual and the audible symbol by the already recommended general use of German in the class-room. This is a strong additional reason for doing what has been so frequently sneered at, as a wasteful pandering to the American love of the practical and appreciation of merchantable results, even in education.

Whatever be the correct psychological distinction, there is certainly a difference of vital pedagogical importance between the passive and the active memory. The bearing of this fact upon learning German is at once obvious, when we recall its significance in our knowledge of the vernacular. The English vocabulary actually at our command, for the expression of thoughts rising in our own minds, bears a relation to a still larger vocabulary of words and idioms, recognized more or less dimly at sight, but never responding to our call, not unlike that of a smaller to a larger concentric circle. The former is the measure of our effective grasp upon the resources of our mother-tongue. It is definite, clear-cut, and under control. It is held in readiness by what I term the active memory. The latter is a more or less unknown territory. Its boundaries are indefinite, its contents ill-assorted and bound together but loosely by the associative principle, and we are frequently the victims of its illusions. It is the home of Mrs. Malaprop and is embraced within what I term the passive memory. Now, as far as the mother-tongue is concerned, I suppose that we shall agree that a task of prime importance for the scholar is to enlarge the smaller vocabulary held by the active memory, until its extent coincides, as nearly as possible, with that of the more or less nebulous, ill-defined contents of the passive memory. This, not so much for the purposes of the pulpit and the rostrum, as for the simple reason that the deepest, and widest, and clearest literary appreciation is possible only within the range of the active memory. Half glimpses, distorted views, and outright misunderstandings are staple products of the passive memory. I have no faith whatever in the judgment that recommends its cultivation in the schools. In spite of the most vigorous efforts to supplant it by something better, enough of this limbo will remain untouched, to annoy and distress its possessor through life. Reproduction of the impressions received is the chief means for the cultivation of the active memory. The subject thus appropriates the object of his attention so thoroughly that the latter becomes an organic part of the former's consciousness. Impressions not thus welded to the previous total stock-in-trade of the individual consciousness may last indefinitely; but they do not become organic elements of that consciousness. No amount of passive reading can take the place of self-exertion, in the shape of oral and written exercises, calculated to exhaust the formal elements of the vocabulary successively under consideration. A long and comprehensive course in theme-writing, arranged to tally with the progress of the student in the direction of vocabulary, is in line with the already quoted recommendation of Professor Hart and with our views concerning the nature of memory. However long German may be studied as a dead language, the vocabulary thus acquired remains vague and inert and yields no effective vantage ground for future conquest. Our blind faith in the rules of grammar and rhetoric, in reading, and, worst of all, in translation, as adequate instruments of language-discipline is one of the unfortunate results of our failure to realize the significance for our work of this double nature of memory.

Once more, teaching German as a living language harmonizes with the idiomatic nature of all speech. If we subtract from the idioms employed by any language all those that may be regarded as international, we shall have left a relatively small number of purely national idioms, that reflect the peculiar slant of the popular mind. With this comparatively small group the pupil should, I believe, be chiefly concerned. Those text-book writers that invite the pupil to spend months in translating his personality into sentences that, save for the foreign vocables, are no more German than they are English or French or Spanish, surely fail to recognize that the vocabulary the student most needs to acquire is not that of dead vocable but of living idiom. Inductive comparison of English and German idiom is one of the most effective means of penetrating into the spirit of the latter. It should however, consist chiefly in seeking German idiomatic equivalents for the familiar thought-processes of the student's vernacular. Thus the learner's attention is focused upon the syntactical and stylistic resources of the foreign idiom, the subject with which he is constantly grappling. Whereas extensive translation into the pupil's mother-tongue is defensible only on the ground that discipline in it is of prime importance, in comparison with which actually learning German is a secondary matter. Even if necessary at first, as a test of the student's grasp of the meaning, such translation can and should be used sparingly at the outset and gradually supplanted by explanations and questions in German.*

This means, of course, a frank recognition of the fact that we are teaching our beginners, not the science of German language-development, but the art of modern German speech-usage. To attempt to do both things at the same time is to invite the certain failure, experienced annually in hundreds of schools throughout the country. The transparent attempts of otherwise respectable teachers to dignify their humble service as instructors in an inductive art by giving it a sternly philological appearance are a wretched make-believe, deceiving nobody but possibly themselves, and certainly their student victims. Calling a spade an agricultural implement is as idle and silly in education as elsewhere. That the elements of German are still not infrequently learned for the first time in college is a poor reason for attempting to teach even here, in place of idiomatic, living German, a nondescript mixture of English and of necessarily jumbled linguistic facts, sometimes termed "philology." Far better were it, in a course so brief as to suggest the need of such jugglery, to be perfectly honest and confine the student's attention to standard English translations of German literature and to a course in English linguistics. The double advantage accruing from such action would be, (a) a considerable economy of time and, (b) the employment of the learner's mind in a field for which his previous training has given him at least some preparation.

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*Cf. my paper: Should the Elementary Study of German be Chiefly Inductive? Pub. of the Mod. Lang. Ass'n. of America IX, 4. Append x p. XIX f.

German literary history, the historical development of the German language, as a whole, problems of German syntax and style, and the numberless questions of word-formation and word-change are all fit themes for scientific treatment at the hands of one who knows modern German thoroughly and whose preparation is otherwise adequate. Far from belittling, the whole argument of this paper exalts the importance of just this work. But to invite the tyro in modern German to a scientific feast of this sort is like the stork's politeness in tendering a long-necked-bottle-banquet to the fox.

In conclusion, let me briefly recall my principal reasons for urging the teaching of German as a living language in our schools and colleges;

(1.) To secure and sustain that vivid interest in the subject on the part of the pupil that gauges his own and the teacher's success;

(2.) To imbue the pupil with the idiomatic spirit of the language that is the "open sesame" to a full comprehension and enjoyment of its literary treasures:

(3.) To focus the attention of the learner, not upon the mechanical, the static, but upon the organic, the dynamic resources of the language;

(4.) To render unnecessary subsequent foundation-laying by doing the initial work thoroughly;

(5.) To gain the immense advantage involved in cultivating the student's active, as distinguished from his passive, memory;

(6.) To link closely as possible the visible with the audible sign-mechanism of the language and thus to bring within the range of the student the musical beauties of poetry and of artistic prose, and, finally,

(7.) To act consistently with the truth formulated by Marcel: "Particular grammar is an inductive art as general grammar is an inductive science."* STARR W. CUTTING.

University of Chicago.

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*Marcel: Language as a Means of Mental Culture. Bk. VI, Chap. III, Sec. 1.

WHAT IS THE CONSENSUS OF OPINION AS TO THE PLACE OF SCIENCE IN THE PREPARATORY SCHOOLS?

Within the past ten or fifteen years there has been a progress in the science teaching of the secondary schools that has not been equalled in any of the other groups of studies. There was need enough for it, and indeed there is still need of much more. Many schools have made no progress, while in others, science teaching is on a very satisfactory basis.

Science instruction found its way into the majority of schools at first merely to satisfy the demand for information. The parents wished their children to know something about the laws of Physics, for instance, as many now wish their children to learn something about the trades while in school. Advocates of each science clamored for a place in the curriculum, which was already well occupied by the standard subjects, and to meet the demands that were made, the best that could be done was to give something that could come from a few weeks' instruction by text book-study. Many schools still pursue this method; but the best have added laboratory courses, which have been demanded, when, by slow degrees, it seemed well to endeavor to impart training, as well as to give information in science study. In the best schools laboratory study is now a prominent part of science work, as it has also come to be in the majority of colleges.

At first science was taught by the text-book solely, and not necessarily by teachers trained in science work. At present it is more commonly in the hands of science teachers. Their training is often of the best, but they are frequently handicapped by the fact that they must teach many sciences, and hence some of them very poorly. Even now science teaching in many schools is given as extra work to teachers trained in the humanities.

In considering the present status of science teaching in the preparatory schools, it is exceedingly difficult to state the case briefly and still correctly; to most statements there must be many qualifications, because of the great variety of conditions. This much is certain, that in the majority of schools there has been progress, and in some cases a most gratifying advance. The experience of Harvard proves in a most conclusive manner that schools can, and that many do even now, give instruction in Physics and Chemistry which may be considered a fair equivalent of college work, and may certainly be placed side by side with the older and better established college entrance requirements in point of mental discipline. Harvard believes that the time has come when some of the other sciences may also be recognized, and now the proposition is issued from this great institution to accept for entrance to the University several other sciences than the original Physics and Chemistry. That no mistake is being made everyone must admit who has given close attention to the preparatory schools. Not only are there now schools in which the physical, biological, and earth sciences are well enough taught to take rank with mathematics and language, but their number is increasing at a rate that is encouraging.

I feel like insisting upon this point of progress, because, although it is well known to most science teachers, it is not yet so fully grasped by the teachers of mathematics and the languages, especially those in the college. It is an important point, because it is only upon the basis of this condition that preparatory school science can expect recognition from the college. So long as many believe that the schools in general are now in the same condition that they were ten years ago, and where, unfortunately, many even now are, opposition to the recognition of science as a college entrance requirement will be strong.

A second point that I make confidently is, that science teaching in the secondary schools has taken a prominent and unassailable position. The day when it could be considered experimental is past. Not merely is there the original demand for science for the sake of the *information* which it conveys, but also at present a much stronger demand for science because of the *training* which it is capable of imparting. Without detracting a particle from the value of language and mathematical training, it may be claimed that from no other class of instruction can we obtain the important discipline which properly taught science furnishes. The value of a science training need not be discussed here. We may take it for granted as a fact amply proved by a long experience. In disciplinary value properly taught science has established its claim to rank with properly taught language and mathematics. The three go well together, and together furnish a well rounded training. Without either one, the educational system is weak.

Science in the schools has taken its position only after a hard fight on the part of its votaries; it has received few favors and has struggled on against many odds, until now it has become a firmly established part of the high school curriculum. Its position has been won through merits of its own, but the fight is still on. The battle is only half won. The secondary schools lead to the college, and, rightly or wrongly, the teaching staff, and subjects taught, are in large measure subordinated to the demand of the few who would go to the college. What the college demands for entrance is taught, and what is taught for this purpose is necessarily well taught: otherwise the end in view will not be attained. In many cases, where, as is so common, but few teachers can be employed, these are likely to be selected with reference solely to the demand of the college; and the subjects that do not belong among those fostered by the college demand, are neglected.

This is one of the most serious obstacles that has lain in the path of science and science instruction in the preparatory schools. This branch of learning has been discriminated against and has gained its present position only against decided odds. This leads to what I believe may be stated positively as a third point, that the time has come when the science teachers of the preparatory schools have a right to demand of the college the removal of this discrimination, and that they owe it to themselves to make this demand strongly and positively. Harvard has shown *how* this may be done, and that it is within the bounds of possibility; and Harvard is by no means alone in this position, although many of the large institutions of the East still decline to recognize science, whether well or poorly taught. The time is at hand when we of the college should let it be known what we consider to be *genuine* science instruction, and to announce that such instruction will be accepted for entrance to college on the same terms with the other subjects. By this I do not mean that the student should be allowed to enter college solely upon the basis of a training in science, any more than I would hold that one should be admitted solely upon the basis of a classical training.

This demand for recognition should be made not merely on the basis of justice and encouragement to science itself, but also in justice to the parents, the schools, and the pupils. The parents demand science for their children, and they should not have pseudo-science forced upon them in small, fourteen-week doses, because the two or three teachers for whom they help pay must teach the two or three groups of studies that the college demands, leaving science to take what it can. The schools as a class need the encouragement of college aid, for while upon sound pedagogical principles it is known that only *genuine* science instruction is desirable, since their greatest energies must be given to fitting the *few* for college, they are unable to satisfy the demand for adequate science instruction, because, although called for by the many, it cannot be used by the few for whom the teaching staff is mainly selected.

The pupils, whatever their future, need science training.

What is best adapted to train children to study further in college should be that which is best adapted to prepare them to take part in the life work. The many do not go from the preparatory school to the college. It is only the few. This small minority should not control the school curriculum and the way in which subjects are taught. That which is best for the majority should be decided upon and given in the way that will furnish the best results. Many pupils who are under the impression that they are getting a science training in the preparatory schools are in reality gaining only a jumbled smattering of science information. The college as a part of the educational system should do what it can to improve the education of those who do not go to college. Its entrance requirements should include all those subjects which are well fitted to train the mind for use in life, and science study is surely one of those subjects, as it is also one that is needed by those who enter the college. Therefore I make the claim that science of the genuine kind is needed by all classes of students who go through the preparatory school. That it is not always possible for the pupils to obtain it is partly due to the fact that the college grants to it no recognition.

While it is my belief that the time has arrived when the college can fairly be asked to take cognizance of secondary school science, I insist that the science recognized shall be genuine in all respects. The fourth point that I would make, as a general statement of conditions, is that there is now altogether too much pseudo-science in the schools. For this no one should ask recognition. It must be gradually eliminated, either by improvement or by being taken bodily out of the curriculum; and the surest way to bring about this end is to mark it as false, and for the college to decline to consider it science. It does no good to any class of students; and I believe that it may be fairly stated that instead of doing good it does positive harm, by taking the place of older subjects, so well developed that they can be taught in such a way as to give valuable training to the student.

There is no consensus of opinion concerning which sciences should be taught, nor what their order should be. Most, if not all teachers, will agree that under the present conditions, in most schools, too many sciences are admitted. The attempt, therefore, to introduce new subjects, as the Committee of Ten has done in the case of Meteorology and Physiography, ought not to meet with success in most schools, unless either more teachers are forthcoming or some other subjects are replaced by them. Where there is either no regular science teacher, or at best but one, the *number* of sciences taught should be distinctly reduced, and the *time given* to each subject lengthened, and the methods made scientific. No science should have a claim to recognition among the college entrance requirements unless it has been taught for at least one year by approved methods, including a considerable share of laboratory work. Science so taught for one year should be accepted in lieu of an elementary college requirement in mathematics, or the languages, and the science subject so taught for two years should be considered an equivalent of an advanced subject. There should, however, be a distinct limitation placed upon the number of sciences which any one pupil may offer, although each science should be so recognized that any student may offer any one of them.

Under the present conditions the teacher of science in the secondary schools may be almost anything, a high school graduate, a normal school student, a college student working his way through college, or recently graduated from it, or in some cases he may be a man splendidly trained both at home and abroad. Naturally many mistakes have been made in selecting teachers. Some who are well trained cannot teach, and some natural teachers have been distinctly injured by being encouraged to begin their work before they are really ready for it. As I view the matter, one of the most fundamentally important mistakes, and one very generally made, is to try to find a teacher who *knows all* the science subjects. There is, of course, no such teacher; but oftentimes, in the course of a search for a competent science teacher, a man who has studied all the sciences in a small institution, under a single man, is successful in competing against a specially trained man, who cannot bring testimonials from a whole faculty of science.

I would urge that one of the crying needs of the schools is to be rid of the smatterer. Look for a teacher specially trained, or at any rate specially interested, in one science or group of allied sciences. Let him develop this to the best of his abilities, and this science, at least, will be well taught, and will find recognition in the colleges that accept science. Even if, through demand from the parents, he is obliged to teach the other sciences, he is certainly as well able to do it as can be expected of a man who is ordinarily required to pretend to know all the natural sciences. It would be unfortunate if he were required to teach all the sciences, but probably under the conditions at present existing he would be. But at least give him a chance to teach one thing well. Such a teacher can prepare a student for college in one subject; and there are many such instructors now teaching in the schools and now ready to send men to college as soon as the college says the word,—and when the word is spoken, very quickly other similar teachers will appear.

When a teacher is expected to know all about Physics and Chemistry, Zoology, Physiology and Botany, and Geology and Physical Geography (perhaps with Meteorology, Physiography and Astronomy added), one can hardly expect him to do high grade work. If, however, he is expected to *know* only one or two of these, he may be called upon for good work. Such a man will not hear recitations merely, and then consider that he has done his duty, because it is all that he *can* do, but he will introduce laboratory work in at least one of the sciences. I am not certain that there is a consensus of opinion in favor of this proposition, but I believe that it is safe to hold that the science teacher to do the best work and to give science instruction such as the college should demand, *must* be specially trained in one of the three groups of science. This seems to be proved by the experience of many of the best schools. Also, where such a teacher is required to give instruction in other sciences, in which he is not specially trained, the quality of his teaching will be very much better than that of the one who has *no* special training or interest. The very fact of his knowledge in one group gives him ideas concerning methods, and a training which to some extent can be applied to any class of science teaching.

Whether or not there is consensus of opinion that science work, and other subjects as well, should be somewhat elastically elective in the secondary schools, I am unable to say, though I should think that there should be such a consensus. There is such a wide range of tastes among the pupils and parents that some opportunity for its gratification should be allowed. My ideal would be to have it possible for the pupil to take *one* science that is well taught, if he chooses, or, if more than one science is well taught on approved methods, to allow him to choose which one he should take, or possibly even allow him to take two. The question which group of sciences should be selected for a place in the schools seems not to be a serious one. Any one of the three groups is capable of giving valuable training. Let the choice of the group be a matter of chance, if necessary; take the one in which the teacher is most interested, or for which the school is best equipped, and develop that, and in all future time choose the teacher whose training is along this line. This will save expense in laboratory equipment.

The ideal would be to furnish a specially trained teacher for *each* of the three groups, so as to insure a high quality of work in all the sciences taught, and this is the ideal toward which the report of the Committee of Ten, if followed, would lead. Under the present conditions it will be found almost impracticable, but we should strive toward it and attain to it whenever and wherever possible. The most important thing is to have the schools furnish a genuine science training; and to gain this end special provision should be made in each school for one group of well taught sciences. It seems to me that it makes little difference whether the group selected is Physics or Chemistry, the biological group or the earth sciences—either one will give the requisite training if properly taught. In some schools facilities favor one of these groups, in others another. To properly encourage science instruction the college should accept any one of these groups as an elementary entrance requirement, with the understanding that the particular group selected shall be well taught in accordance with the best scientific methods.

There is a general consensus of opinion upon this point, that genuine science instruction should be of disciplinary value. It should not merely teach facts, but should be so taught that, when finished, the powers of thought shall have been distinctly improved. By general consent it is agreed that laboratory work is the means to be employed to gain this end. The rapidity with which laboratory study of sciences has pushed its way into the schools is most gratifying. It has come to be almost the rule among good schools. Any recognition of preparatory school science by the college must take account of this and aid the tendency toward better laboratory work by making this mode of study a part of the requirement.

My next point may to many seem heretical, and I can hardly claim for it the general assent of science teachers which I believe the preceding statements will receive. Nevertheless it seems to me that in the enthusiasm for the new there is tendency in some directions to overlook the importance of the old. I would not be understood as underrating the importance of laboratory work, nor as being so conservative as to advise adherence to the antique methods of science teaching even now in vogue in many places. I do hold, however, that the original demand for information upon science subjects was based upon a distinct need, and that this should not be overlooked; and I should urge that this cultural value of science be not forgotten. The discipline of laboratory work need not be subordinated.

The most uncertain of all of the points in science teaching that have come to my attention is, *what* should be taught and when it should come in the course. There seems to be a very wide divergence of opinion upon this matter. At first this seemed to me one of the most discouraging features in the problem of secondary school science; but the more I think of it the less weight I place upon the fact of this distinct difference of opinion. I have come to believe that the essential point is to have one group of sciences properly taught. *When* this shall come, and what shall precede and follow it, is of less importance, and will in many cases depend upon the individuality of the teacher and upon the school location. There will always be differences of opinion upon this point. The best and clearest statement of the subject is that of the Committee of Ten. Many of the best schools are shaping their courses as far as possible in harmony with the recommendation of this committee; and while I do not find myself in close agreement with all of their suggestions concerning the order of the curriculum, I believe that they lead nearer to the ideal than anything else so far formulated. It seems certain that by following these recommendations a step in advance will be made.

The question of science instruction in the preparatory schools is vitally associated with that of geography study in the schools of lower grades. If there is no such agreement, there certainly should be a consensus of opinion that of all subjects in the schools the worst taught is geography. The reasons for this are many, and the remedies are not easy to find. It is not my intention to enter into the consideration of this large subject; but I feel called upon to protest against the geography instruction, and to call for a careful consideration of this subject by superintendents and normal school teachers. This is done not merely for the sake of the pupils who are being imposed upon, but also for the sake of the science teaching in the secondary schools, with which we are now particularly concerned. When geography is properly taught, science study in the preparatory schools may be expected to produce vastly better results. The two questions cannot be definitely and properly separated.

There is one science whose place in the preparatory schools appears to be fairly well determined. This is Physical Geography, which the Committee of Ten places in the first year of all the preparatory school courses in its tables. While this is not uniformly adopted, the last few years have witnessed a decided move in the direction of this recommendation. A year of Physical Geography, better in the last year of the grammar school, or, failing this, in the first year of the high, follows naturally upon the preceding study of geography. It arouses an interest in science, furnishes a great deal of desirable information, and, if properly taught, imparts a valuable training in observation, collection of facts and reasoning from them. This subject not merely connects geography with the various sciences in the secondary school, but it serves as a very good introduction to this science teaching.

In conclusion I would say that it seems to me certain, as a most important point, upon which all science teachers should agree, that the progress of science instruction, which has been most gratifying, and is still continuing to be made, is such that science teachers have the right to demand that science, when well taught, may properly be placed among the list of college entrance subjects. This I believe is the next step to be taken, and the time for it is ripe. It cannot be said that *all* schools have reached the stage when they can make this demand, but a very large number have. Their ranks are being constantly swelled, and will receive even more notable accessions as soon as science is regarded by the college as a branch of education equal in value with the better established divisions. I believe that a general move should be made by the teachers of genuine science to secure college recognition of the success that science teachers, almost unaided, have attained.

RALPH S. TARR.

Department of Geology,
Cornell University.

THE STATUS OF THE STUDY OF PEDAGOGICS IN THE AMERICAN COLLEGE AND UNIVERSITY.

The first permanent chair of pedagogy, which was shared, however, with the professorship of general philosophy, was established in Iowa University in 1873. In 1879 the University of Michigan organized a department of the "Science and Art of Teaching." The University of Wisconsin organized a similar department in 1881; the University of North Carolina and the Johns Hopkins University in 1884; and Ottawa University, Indiana University, the Universities of Cornell and of the City of New York soon followed suite.

In 1896 the United States Commissioner of Education reported 192 colleges and universities holding pedagogical courses in the scholastic year '94-'95. Of these institutions 27 were maintaining organized departments of pedagogy, and the report proceeds to a classification of the work undertaken in these enumerated departments. The following table presents much of the material which may be found in the Commissioner's report, but it has been adapted in form to the purpose of this paper. The University of Buffalo has been included in the table, since it maintains a well organized department of pedagogy. The University of Pennsylvania and Northwestern University, Evanston, Ill., included by the Commissioner, have been excluded in the table. These institutions offer but one course in pedagogics, and can consequently hardly be considered as maintaining departments in the subject. As far as can be ascertained, all institutions which offer two or more courses in pedagogics which qualify for the regular academic degrees are enumerated. Any college or university which may perhaps have partially formed a pedagogical department, but which, like the University of Pennsylvania and the Northwestern University, offers but one pedagogical course, has for that reason been omitted. Swarthmore College and Brown and Syracuse Universities* are also of this class. There are many colleges and universities throughout the country which maintain normal courses entirely or almost entirely distinct from their academic courses. The pedagogical department, for example, in the State College of Kentucky, is virtually equivalent to a state normal school of the usual type, It grants the degree of Bachelor of Pedagogy, but none of its pedagogical courses qualifies for other degrees. Fisk University, of Nashville, Tennessee; Claflin University, of Orangeburg, South Carolina; Hillsdale College, of Michigan, and many others, are of this character, and their pedagogical departments are strictly but extensions of the present normal school system. It is, therefore, unnecessary to explain the omission in this paper of any further reference to their methods. The division of studies into two groups may appear in certain cases somewhat arbitrary. Studies which are described as professional, or which from foregoing arrangements in the curriculum may be inferred to lead directly to the teaching profession, have been classed as normal. The cultural class includes, obviously, all those pedagogical studies which are intended for the general student. Here a line is sometimes difficult to draw, as the distinction depends in a large degree upon the intention of the individual professors in the conduction of their class-room work.

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*[Since this article was prepared Syracuse University has elected a professor of pedagogy and has made provision for a two years' course in theoretical and practical pedagogy. The department of pedagogy is a distinct department, and confines its work to the history of education, educational psychology, and the science and art of education.—The Editor.]

Institution.	**Department under which pedagogical courses are classified.**	**COURSES**	
		Normal.	**Cultural.**
University of Buffalo, Buffalo, N. Y.	School of Pedagogy, (a) open to College and Normal School graduates.	General Pedagogy, 3 hours, First semester. Educational Method, 3 hours, Second semester. Special Method in teaching Arithmetic, Geometry. Language and Writing, 2 hrs., First semester. Special Method in teaching Literature, History and Geography, 2 hrs., Second semester. History of Education, 3 hrs., First “ Philosophy of Education, 3 hrs., Sec'd semester. Physical Education, throughout year. Aims and Methods of Elementary Education, 1 hour throughout year. Organization and Management of Elementary Schools, 1 hour, First semester. School Supervision, 1 hour, Second semester. Child-Study, 3 hrs., throughout year. Educational Psychology, 2 hrs., throughout yr. “ “ in elementary and high schools, 1 hour throughout year. Seminar based upon work done in Model School. Courses offered in philosophy, anthropology, biology, ethics, etc.	
University of California, Berkeley, Cal.	Department of Pedagogy, (b) open to juniors, seniors and graduate students.	Practice of Teaching: 3 hours a week are devoted to lectures and text book; 3 hours to the observation of teaching in schools. Second term. School Supervision: Text book, lectures, 2 hrs; visitation of schools, 3 hrs. First term. Theory of Education in relation to the practical work of schools, 4 hrs. First term. School systems, 2 hrs. Second term. Seminary for the study of special problems in education, 2 hrs. Seminary (graduate) for the systematic study of child life. Seminary for the study of the biological aspects of education. Primarily for graduates.	History of Education, 3 hrs. Philosophy of Education, 2 hrs.
University of Chicago, Chicago, Ill.	Department of Pedagogy.	SENIOR COLLEGE COURSES. Educational Psychology, 4 hrs., 6 weeks course. General Pedagogy: Principles developed along the line of physiological psychology, 4 hrs. 12 weeks. General Pedagogy: Development of certain phases of German psychological thought and the resulting principles of pedagogy. 4 hrs., 12 weeks. GRADUATE COURSES. Special Psychology of Childhood, 4 hrs., 6 wks. Child Study, 4 hrs., 2 twelve-week courses. Pestalozzi and Herbart, 4 hrs., 12 wks. Schleiermacher, with reference to education in America, 4 hrs., 12 wks. Topics in the History of Education down to the close of the Reformation, 4 hrs., 6 wks. General related view of Modern German Pedagogy; work of Philanthropists, Pietists and Froebel. Educational Methodology, 4 hrs., 12 wks. Seminars in Herbartianism, 12 wks.; in Pestalozzi and Herbert Spencer, 2 twelve-week courses; in Herbart, 12 wks.; in Modern School Systems, 2 hrs., 12 wks.; in Comenius; in Problems of Secondary Education.	
Clark University Worcester, Mass.	Sub-department of Education in the department of psychology. It offers a course which can be taken as a means for the degree of Doctor of Philosophy. Open, like the other departments of the University, only to graduate students.	Leading topics in education, 1 hour. School Organization, 1 hour. Rousseau and Pestalozzi, 1 hour; half year. Hygiene of instruction and school Anthropometry, 1 hour; half year.	

University of Colorado, Boulder, Colo.	Department of Pedagogy. Open to undergraduates, graduates of colleges and normal schools and teachers of experience.	Methods of Teaching. Both semesters. School Economy. Second semester. Comparative educational systems. First semester. Herbartianism. Second semester. Pedagogical Seminary.	History of Pedagogy. First semester. Educational Psychology. Both semesters. Philosophy of Education (Compayre). Second semester. Educational Masterpieces. First semester. Philosophy of Education (Rosenkranz, Bain, Herbart). Second semester.
Columbia University New York, N. Y.	School of Philosophy (c), open to undergraduates and graduates.	Elements of Psychology and General Methods, 4 hrs. Advanced Psychology and General Methods, 1½ hrs. Methods of teaching English literature in secondary schools, 2 hrs., first term. Methods of teaching History in secondary schools, 1½ hrs., first term. Methods of teaching Latin and Greek in secondary schools, 1½ hrs., second term. Methods of teaching Mathematics in secondary schools, 1½ hrs., second term.	History of Educational Theories and Institutions, 1 hour. Principles of Education, 1 hour.
Cornell University Ithaca, N. Y.	School of Philosophy. Open to graduates and undergraduates.	Institutes of Education, 3 hrs. Primarily for juniors and seniors. School Supervision, 1 hour; third term. Primarily for seniors and graduates. Pedagogical Conference (including school visitation), 2 hrs. Primarily for seniors and graduates. Pedagogical Seminary, 2 hrs. Undergraduate and graduate sections.	History of Education, 2 hrs. For graduates and seniors.
Harvard University Cambridge, Mass.	Department of Philosophy. (d) Its courses in Education and Teaching may lead to the degrees of A. B. and A. M. A four years' Normal course in Science, with degree of S. B. is also offered by the Lawrence Scientific School.	FOR GRADUATES AND UNDERGRADUATES. Methods of Teaching Science in Elementary and Secondary Schools, 2 hrs. Half course alternating with Methods of Teaching History and Ancient Languages, etc. PRIMARILY FOR GRADUATES. Organization and Management of Public Schools and Academies, 2 hrs. Pedagogical Seminary—Aims, Organization, Equipment and Methods of Education, more particularly of secondary education, 1 hour.	FOR GRADUATES AND UNDERGRADUATES. History of Educational Theories and Practices. 2 hrs. Introduction to Educational Theory. Discussion of Educational Principles, 1 hour. Half course.
University of Illinois, Champaign, Ill.	Department of Pedagogy.	Educational Method. Winter term. Special Methods in common school subjects. Spring term. Special Methods in high school subjects. Fall term. Seminrry for special investigation. Winter term. School Organization. Spring term. School Management. Graduate course.	Educational Psychology. Fall term. Educational Ideals. Winter term. Universal Form of Method in Education. Spring term. Universal Law and Problem of Thinking. Fall term. GRADUATE COURSES. Philosophy of Education. History of Education.
Indiana University Bloomington, Ind.	Department of Pedagogy. Open to graduates and undergraduates.	Modern School Systems and Problems. Daily. Alternates with History of Education. Seminary in Physiological Pedagogics. Child-Study. School hygiene. Daily.	History of Education. Daily.
State University of Iowa, Iowa City, Iowa.	Collegiate Department. Pedagogical course open to juniors, seniors, special students.	Methods of instruction and general school room practice, 3 hrs. Winter term. Secondary Education, 3 hrs. Spring term. School Supervision, 2 hrs. Winter term. Educational Doctrine, 3 hrs. Fall term. General Pedagogy, 5 hrs. Year. School Systems, 2 hrs. Spring term. Pedagogical Seminary, 2 hrs.	History of Education, 2 hrs. Year.
University of Kansas, Lawrence, Kansas.	Department of Pedagogy. It offers elective courses to juniors and seniors.	Methods of Instruction. Daily. Half second term. School Law. Daily. First half term. School Management. Daily. Half second term. School Supervision. " " first term. Educational Theory. " First term. Open also to graduates. Educational Systems. Daily. Seminary. Open also to graduates.	History of Education. Daily. Second term. Philosophy of Education. Daily. Half first term.

Leland Stanford Jr. University, Stanford University, Cal.	Department of Education. (e) Courses entered in Register, described as undergraduate electives. Special work is arranged for graduate students in the department.	Methods of Teaching in the Elementary Schools, 2 hrs. First semester. Methods of Teaching in Secondary Schools, 2 hrs. Second semester. School Organization and Supervision, 2 hrs. Second semester. Rousseau and Pestalozzi, 2 hrs. Both semesters. European School Systems, 1 hour. Second semester. Psychology of Childhood, 2 hrs. Both semesters. Pedagogical Seminary, 2 hrs. Both semesters.	History of Education in Europe, 2 hrs. Both semesters. Intellectual Development of America, 2 hrs. Both semesters. Educational Classics, 2 hrs. Both semesters.
University of Michigan, Ann Arbor, Mich.	Department of the Science and Art of Teaching. Open to undergraduates and graduates.	Art of Teaching, 4 hrs. First semester. School Management, 3 hrs. First semester. Theoretical and Critical Pedagogy, 4 hrs. Second semester. Educational Systems, 2 hrs. Second semester. Pedagogical Seminary, 2 hrs. " "	History of Education, 3 hrs. Both semesters.
University of Minnesota, Minneapolis, Minn.	Courses in the College of Sciences, Literature and the Arts. (f) Open to juniors and seniors.	Methology. Second term. School Administration. Third term. Special Seminary and School Visitation.	Philosophy of Education. First term. Ancient Education. Twice a week. First term. Mediæval and Modern Theories. Twice a week. Second and third terms.
University of Mississippi, University, Miss.	School of Pedagogy. (g) Open to undergraduates and graduates	School Management, 3 hrs. First term. Methods of Teaching, 3 hrs. " " School Supervision, 2 hrs. Second term. Science of Education, 3 hrs. " " Psychology of Childhood, 1 hour. First term. Applied Psychology, 2 hrs. First term. Pedagogical Seminary, 1 hour.	History of Education, 5 hrs. First term.
University of the State of Missouri, Columbia, Mo.	Normal Department. Open to undergraduates and to candidates for a teacher's certificate.	JUNIOR COURSES. School Systems of Europe, 2 hrs. First semester. Philosophy of the Kindergarten, 2 hrs. Second semester. SENIOR COURSES, NOT QUALIFYING FOR B. A. DEGREE. Herbert Spencer's Educational Theories, 3 hrs. First semester. State and Municipal School Systems, 3 hrs. Second semester.	History of Pedagogy and the Institutes of Education, 3 hrs. Junior course. Philosophy of Education, 3 hrs. Senior course; not qualifying for the B. A. degree.
New York University New York, N. Y.	Graduate School of Pedagogy.	School Buildings, Sanitation, Equipment, etc. School Organization, 2 hrs. History of Education, 4 hrs. Institutes of Pedagogy. Seminary to the Institutes of Pedagogy, School Visitation. National School Systems, 1 hour. Physiological and Experimental Psychology. 4 hrs. Descriptive Psychology, 4 hrs. Physiological Pedagogics, 2 hrs. Aesthetics in Relation to Education, 1 hour. Sociology in Relation to Education, 1 hour. History of Philosophy, 2 hrs. Ethics, 1 hour.	
University of North Carolina, Chapel Hill, N. C.	Courses in the "College."	Art of Teaching, 2 hrs. Spring term. For undergraduates. Science of Education, 2 hrs. Fall term. For undergraduates. Herbartian Pedagogy, 2 hrs. Open to graduates and undergraduates, alternating with Child-Study, 2 hrs.	FOR GRADUATES AND UNDERGRADUATES. History of Education, 2 hrs. Fall term. Philosophy of Education, 2 hrs. Spring term.
Ohio University, Athens, Ohio,	Department of Pedagogy (h). Two courses offered. I. Equivalent to that of the State Normal School. 2. Leading to degree of Bachelor of Pedagogy.	Science of Education. Seminary in City School Systems. Once every 2 wks.	History of Education. 4 hrs. Education from a National Standpoint. 3 hrs. Prescribed for the Freshman Class.

Randolph-Macon Woman's College, Lynchburg, Va.	Department of Psychology and Pedagogy	Theoretical and Practical Pedagogy. 3 hrs. 6 mos. COURSES LEADING TO A M. A. DEGREE. School Management. 3 hrs. One month of second term. Educational Theory. Systematic Pyschology. 2 hrs. Year.	History of Education. 3 hrs. 3 mos.
South Carolina College, Columbia, S. C.	Department of Pedagogics offers 4 years course to normal students.	"The first two years are spent in preparation for teaching the common school branches. The last two will be devoted to history and theory of education with their applications and to the study for practical purposes of school organization, supervision and kindred subjects needed by those who are fitting themselves for the higher positions in educational work."	
University of Tennessee, Knoxville, Tenn.	School of Philosophy and Pedagogy. Academic Department.	Elementary principles; theory and art of teaching. 3 hrs. Second term. Taken instead of Military Science by members of the Freshman class who have taught 5 mos. and as an extra by others who desire to prepare for primary teaching. Corresponding course in Sophomore year. Educational Psychology. 3 hrs. First term. Taken instead of prescribed psychology in Junior year. Science and Art of Teaching. Second term. Senior elective.	History of Education. 3 hrs. First term. Senior elective.
University of Texas, Austin, Tex.	School of Pedagogy in Department of Literature, Science and Arts.	JUNIOR UNDERGRADUATE COURSE. School Management. Fall term. Applied Psychology. Winter term. Art of Teaching. Spring term. SENIOR UNDERGRADUATE COURSE. History of Education. Fall term. Science of Education. Winter term. School Supervision. Spring term. Pedagogical Seminary. Open to graduates of the School of Pedagogy and to professional teachers.	
University of Washington, Seattle, Wash.	Department of Paideutics.	Theory and Art of Education. 3 hrs. Second term. Prerequisite, 15 University courses. Educational Theories and Systems. 3 hrs. Third term. Prerequisite, Normal School Diploma or 15 University courses.	
West Virginia University, Morgantown, W. Va.	Special Pedagogical course of two years. 5 hrs. per wk. for the benefit of students who wish to qualify themselves for teaching while pursuing their studies in the university.	History of Education in W. Va. Elements of Pedagogics. First year. Fall term. School Management. Educational Reformers. First year. Winter term. Education in the U. S. Educational Theory. First year. Spring term. School Supervision. Second year. Fall term. Educational Psychology. Second year. Winter term. History of Education. Second year. Spring Term.	
University of Wisconsin, Madison, Wis.	Department of Pedagogy	OPEN TO GRADUATES AND UDERGRADUATES. School Management. 2 hrs. Second semester. OPEN TO GRADUATES. School Supervision. 2 hrs. First semester. Herbartian Pedagogy. Twice a week. Second semester. Applied Psychology. 2 hrs. Second semester.	OPEN TO GRADUATES AND UNDERGRADUATE History of Education. 3 hrs. First semester. Philosophy of Education. 3 hrs. Second semester.
Yale University, New Haven, Conn.	Academic Department.	Educational Psychology. 1 hour. History of Educational Theories and Practices. 2 hrs. National Systems of Education. For graduates. Open to seniors. 2 hrs.	

a. Catalogue '96-'97.
b. Register '94-'95.
c. Catalogue '96-'97.
d. Catalogue '96-'97.
e. Register '94-'95.
f. Catalogue '94-'95.
g. Catalogue '94-'95.
h. Circular of Information for 1894.
i. Catalogue '94-'95.

Several inferences concerning the present position of pedagogics in our colleges and universities may be drawn from the above table, and they are, in many cases, substantiated by the special pedagogical notices in the current catalogues and registers.

Little distinction is made in most of the curricula between normal pedagogical courses, properly graduate courses, and cultural pedagogical courses, properly undergraduate courses. In fact, in several cases, even the distinction between education as a normal study and education as a cultural study has apparently not been entertained. No courses in the general history and philosophy of education are offered in the undergraduate departments of the Universities of Chicago and of New York; and in Randolph-Macon Woman's College and the Universities of Yale, Michigan and Tennessee, these cultural courses seem to be intended only for those purposing to teach. West Virginia University and Clark University expressly limit their class of pedagogical students to those expecting to teach. On the other hand, however, many of the colleges and universities emphatically declare their belief in the value of Education as a culture study. The department of pedagogy in the University of California announces a two-fold purpose, the provision of professional preparation and the provision of "such instruction in the principles and the history of education as is desirable in a truly liberal culture." In the University of Colorado the department of pedagogy is "intended primarily to afford college students additional means of liberal culture through the history and philosophy of education." The University of Illinois affirms through its pedagogical department that "pedagogy is not only a professional, but a culture study." The course is "broadened to meet the needs, not only of intending teachers, but of all university students." In the University of Texas the pedagogical courses, "besides their great culture value, are counted of great practical value to all students, whatever may be their vocation in life." This implication of the strongest claim of Education as an academic study is well expressed in the announcement concerning the teachers' course in the University of Minnesota. It is a course designed not only for those training for the profession, but also for "the general student, who in the home and in the state, is interested in the proper care, training and education of children and youth, and who is willing to give to this subject the same intelligent study that is accorded to other problems of history and sociology."

However, even when the distinction between the normal and the cultural uses of pedagogical study is theoretically recognized in the classifications of curricula, practically in the admission of students to normal and cultural classes little discrimination is made. In twenty-five of the twenty-eight tabulated institutions undergraduate students are admitted to purely professional courses in pedagogics, and in several cases these courses are expressly designed for students who wish to prepare for teaching while they are acquiring the regular academic training. To facilitate this object, a teacher's certificate is granted with the baccalaureate degree to students who have accomplished the prescribed normal work. Even the University of California, whose pedagogical department is exceptionally well developed, and who advises that undergraduates intending to remain at the university for graduate study "postpone a part of all of the pedagogical courses they may purpose taking until their undergraduate course is completed," pursues this policy of granting a teacher's certificate upon graduation from the academic department. The certificates which the Leland Stanford Jr. University and the Universities of Michigan, Iowa, Missouri and Texas grant with the baccalaureate degree are endorsed by the state. In the University of Texas normal diplomas are granted even before the completion of the academic course.

In this connection it must not pass unnoticed that although the standard for graduation in pedagogy is not difficult of attainment, yet, except in the cases where we are frankly informed that the work of the pedagogical department is equivalent to that of a normal school, this department is apparently held to be providing special training for a special class of teachers, for teachers of secondary schools, of academies, for school superintendents, *et cetera*. The department in the University of Michigan aims to "fit university students for the higher positions in the public school service." The University of Minnesota announces that its pedagogical course is "provided for those who wish to prepare for positions of supervision and teaching in the departments of higher education." The primary object of the University of Chicago is to "train competent specialists for the broad and scientific treatment of educational problems." The department of Clark University is designed for "those who desire to become professors of pedagogy or heads or instructors in normal schools, superintendents, or otherwise to become experts in the work of education." The University of Colorado likewise offers special opportunities to "secondary" teachers. There is little suggestion that a university course in pedagogics should precede all good professional work.

The ill-defined position of pedagogy in the university may be inferred not only from the indiscriminate admission of students to the pedagogical courses, the granting of teachers' degrees with the baccalaureate degree, the reservation of the study to a limited class of experts, *et cetera*, but also, in large part, from the dependency of the half-formed department of pedagogy upon the other university departments. In the University of Tennessee pedagogy and philosophy are combined into one department; in Harvard, Columbia and Cornell Universities pedagogical courses are classified under the philosophy department. In the Randolph-Macon Woman's College there is a department of psychology and pedagogy In Clark University Education is a sub-department of the department of psychology. In the University of Washington the professor of pedagogy is likewise professor of philosophy and oratory. In many of the universities courses known as teachers' courses are given in the various departments. The University of Texas distinctly states that the school of pedagogy "readily and profitably blends with the university courses in literature, science and arts." The Universities of Buffalo and of the City of New York alone recognize pedagogy as a properly graduate study, and announce that their pedagogical departments are co-ordinate with the graduate schools of law and of medicine.

Now that the present position of the study of pedagogics in the university has been cursorily indicated, it may be well to consider its relation to pedagogical practice.

It is frequently asserted that teaching is properly one of the liberal professions, and in many instances the pedagogical department of the university declares that it aims to justify this assertion, and in the words of the University of Michigan, "to secure to teaching the rights, prerogatives and advantages of a profession." Truly, a high and commendable purpose, but is its success likely to be insured by prevalent methods?

Why are the liberal professions of law and of medicine so called and esteemed? Schools of law and of medicine maintain high entrance standards, a liberal education is a prerequisite. The degrees of LL. D. and M. D. are conferred not solely upon those expected to be experts in their professions. All who practice the professions of law and of medicine must be equipped with special training. In fact, the state insists upon special training. Physicians and lawyers must hold state licenses.

Against a like stringency of requirement for members of the pedagogical profession it may be urged that a sufficient number of such highly trained teachers could never be supplied to meet the general demand for teachers, that even with the present normal school facilities this demand is not satisfied. From the point of view of economic law, this is an extremely improbable condition, in fact an impossible condition for any length of time. Such statement is made by persons impressed by the scarcity of *good* teachers throughout the country, a veritable scarcity indeed, due, however, not to the lack of opportunities for professional training, but to the small effective demand for thoroughly efficient teachers. In consequence we have a very poorly paid and, in certain districts, a much crowded occupation. Here the same principle which is involved in all forms of cheap labor holds true. The more unskilled the labor, the more plentiful and the less productive, and consequently the less rewarded does it prove. At present the teachers' ranks are recruited in large part from two classes: (1), those who with merely a "general education" can not make a living in other ways, and (2), those who regard teaching as merely a temporary occupation, women who look forward to matrimony (always a large factor in the depression of women's wages), and men who support themselves by teaching while they are preparing for a profession or are seeking a permanent occupation.

How is an effective demand for pedagogical skill clearly a condition indispensable to the forthcoming of such skill, to be developed? Primarily, through the same course that all extensive social change must be initiated, through the education of public opinion, and, secondarily, through state regulation, or more logically considered, through state regulation as the result of an educated public opinion. At present the state requires normal certificates from its public school teachers or submits them to an examination test. Let the state gradually raise its pedagogical standards until finally it exact from all of its teachers university degrees in pedagogics. In public education, as in all our public departments, we must demand higher standards of public service.

This public demand would soon be met on the part of privately endowed universities by a more ample provision of pedagogical opportunities, and state universities, as part of the public educational system, would naturally participate in the movement.

In this respect the reports of the Regents of the University of the State of New York for the years 1868, '69 and '83 are extremely interesting. In 1868 the Regents expressed the intention of asking from the Legislature an appropriation for the provision in several of the colleges of the state of instruction in didactics. It was argued that the principals of academies throughout the state, in most cases college graduates, were sorely in need of some pedagogical training. This opinion was reiterated by Professor Edward North, of Hamilton College, in a paper on Normal Instruction in College, read the following year at the University Convocation. Professor North suggested that the state should pay the college tuition of all students signing a pledge such as was signed on entrance to normal schools, allowing them to study in any college of the state that would organize a normal department. The subject was again brought forward in the University Convocation of 1883 by Professor S. G. Williams, of Cornell University. It was proposed that the Board of Regents should bring to the attention of the Legislature a bill for the establishment in the colleges and universities of the state for five years of three professorships of the science and art of teaching, at a yearly salary of $2,500,—the incumbents of such professorships to be approved by the Regents and subject to their supervision. Concerning any such relation between the state and its colleges and universities no legislative action has yet, however, been taken, although the Superintendent of the Public Institution in his last report to the Legislature strongly urged that the state should "establish at Cornell University a state pedagogical department or school of pedagogy for the professional training of college graduates and others of equivalent standing in the theory and practice of education, thus training them for positions as teachers in high schools, academies, normal schools or as superintendents of schools." Superintendent Skinner evidently intends the university school of pedagogy to supplement the work of the present state normal schools, as the normal schools train elementary teachers, the university school is to train secondary teachers. For this same purpose the Committee of Fifteen suggested a plan which is sufficiently interesting to be quoted in major part. "Let it be supposed that two essentials have been formed in one locality: (1), a college or university having a department of pedagogy and a department of post-graduate work; (2), a high academy or preparatory school whose managers are willing to employ and pay graduate students to teach under direction for a portion of each day. These two conditions being met, we will suppose that pedagogy is offered as an elective to the college seniors. Two years of instruction in the science and art of teaching are to be provided—one, mostly theory, with some practice, elective during the senior year; the other, mostly practice, with some theory, elective for one year as post-graduate work." In Brown University, Providence, R. I., this scheme is actualized through the co-operation of the school committee of the city of Providence. The University of Buffalo has also recognized what may be called the laboratory requirements of a pedagogical department by the establishment of a "model school," which provides practice teaching under supervision. The maintenance of a practice school in connection with the pedagogical department of a university obviates the necessity for normal courses in the methods of teaching mathematics, the languages, history, *et cetera*, such as are offered by the respective heads of departments in Missouri, Minnesota and Leland Stanford Jr. Universities,—frequently an embarrassing and ineffectual arrangement in a university curriculum. Furthermore, this "model school" suggests the possible assimilation between a university department of pedagogics and the normal school of present establishment;

the "model school" will incorporate the best features of the present normal schools.

Advocates of the innovations which have been advanced for the training of teachers will of course have to face the inevitable raising of the objection to increased public expenditure. Not only will the education of teachers be more costly to the state, but it must not be forgotten that a large force of efficient teachers can only be attracted to, and retained in, public service by a high rate of salary. But will not the American people, a people of constantly increasing intelligence, be more willing in the future to expend its wealth in the cause of education than it has proved in the past? The great number of educational institutions of recent private and public endowment throughout the country, testifies that it has already pledged itself to this cause. Moreover, increased taxation consequent to the proposed development of the public school system would be more easily borne because in reality of fairer incidence. The school tax would no longer be considered a burden upon the wealthy for the benefit of their more illy circumstanced neighbors. For, if the state secured to its service the highest pedagogical ability in the country, the children of the rich would attend public schools as well as the children of the poor,—a fair prospect for our future democracy.

ELSIE W. CLEWS.

Columbia University.

SOME PROBLEMS OF COLLEGE ENTRANCE.

The qualifications I possess for this service, according to the committee which appointed me, seem to be ignorance of the present condition of affairs as regards entrance requirements in the controlling universities, and gross uncertainty as to what should be done for the future. The first will enable me to narrate without any prejudice matters of fact, The second will permit me to express my doubts in so persuasive a manner as to compel conviction.

The most recent authoritative literature on the subject consists of the reports of the Conferences on Uniform Entrance Requirements, held during the first half of 1896, of six large universities and the associated schools, and the published statements of certain of these universities concerning their special requirements for the future.

The changes enumerated will begin to take effect in June, 1898. There seems to be no doubt that their consequences will be important and far-reaching.

Hundreds of teachers have read these reports and scores of schools have already modified their curricula and their methods of teaching to conform to them. There have been renewed efforts to make the school courses yield power rather than knowledge, systematized knowledge rather than isolated knowledge, the development of judgment and habits of good thinking rather than memory. Re-enforced as these recommendations will be by examinations given in conformity with their precepts, it is not too much to say that a beneficent revolution will be brought about, affecting first the college preparatory schools, and through them, on one side the other secondary and primary schools of the country, and on the other, the colleges not included in the inner circle of the six. It will take a little time to make the necessary adjustments, and it is not too early to begin.

In a general way the changes are in accord with what every one who appreciates the demands of real education must approve. They deal with the intellectual habits of the individual student rather than with the preparation of definite text-book work. They encourage sight reading and conversation in foreign languages; abundance of laboratory work in science, with accompanying note books; systematized parallel reading in history, and the attainment of power everywhere. When we add to them the reforms already practically triumphant in the teaching of English, they point to a better day than America has ever seen in the matter of secondary education.

When one for the first time examines these innocent looking reports, side by side with the published requirements of the ordinary good college, they do not seem to necessitate any considerable advance of age or preparation. Something is said about *minimum* requirements and the demands made seem elastic and adaptable, so that it might be supposed that they would leave the subject about where they found it, as to amount required, each college taking what it chose; and that the only effect would be to encourage the right sort of teaching, and uniformity up to a certain point. These effects they will undoubtedly produce and these are their blessed fruition. But these are not all.

It may be that all the universities represented in the syndicate did not expect any other results. Indeed there is reason to believe that some connected with the movement were surprised at certain visible consequences, and were engaged in stoutly maintaining the virtues of a low standard of admission while requiring a high one.

But for some reason the reports were found to contain the germs of consequences other than uniformity and good teaching. When the schools were told that they must teach languages to provide for sight translations of considerable difficulty, mathematics to give power to work out rather intricate problems of algebra and geometry, history so as to read all around the era studied and know its causes and consequences, and so on through all the list, excellent as they recognized these things to be, they found it indispensible to have more time. They were not generally loath to take it. It gave them another year of interesting and profitable work. Already some schools have added or announced an additional year, and among the demands Dr. Sachs expects to make is "a fuller allotment of time" for secondary instruction. This is the result concerning which there may be most argument.

The protests which have been filed for a few years past against the advanced age of graduation from college are many and potential. It is *not* a good thing that in order to secure a college degree, a professional education and a small income, a man must wait till he is thirty. It means unwholesome limitation of the educated professional men to the class of the well-to-do. It means, moreover, the omission of the college course in numerous instances. Nor will free tuition and scholarships solve the question, for there yet remain the problems of maintenance and enforced celibacy. The presidents of at least two of the universities uniting in the conferences have forcibly presented the issue, and the present condition is so unsatisfactory as to find few defenders.

The difficulty is usually supposed to lie in the primary and secondary schools and in the family and social arrangements of their boys. That these boys do not reach the same stage of advancement at the same age of those of France, Germany and Switzerland has been frequently pointed out and is evident by a comparison of curricula. Thus the normal boy of the French Lycée of sixteen or seventeen is reading in Greek selections from Homer, Sophocles, Plato and Demosthenes; in Latin, from Lucretius, Virgil, Cicero, Livy and Tacitus; has a fairly good knowledge of English or German gained by eight years' study, and an excellent one of French, knows pretty well his algebra and geometry, plane and solid, and has made considerable study of at least one science. In short, he is ready for a good American college. His American brother of the same average advancement is two years older.

The causes of the difference usually given are various. The simpler system of weights and measures saves time for French boy, as well as the simpler spelling of the language. These advantages can hardly, under present conditions, be realized in our schools. More potent are, probably, three other causes:

1. The French curriculum is the work of the best experts of the nation. There is no duplication. The different parts supplement and support each other. The gradation is perfect and the boy passes without break and with a thread of continuity and relationship weaving all the course together from the kindergarten to the university.

2. The French teaching is trained teaching by selected teachers. They have all learned something at least about elementary ideas of teaching. All crudities and great weaknesses are weeded out in their excellent normal schools, which prepare their teachers most efficiently for the work.

3. Education is a more serious and important thing than with us. The school day lasts from 8:00 to 5:30 o'clock, five and one-half days in the week, and about two hundred and twenty full school days in the year. The length of a college preparatory year about Philadelphia is from one hundred and sixty to one hundred and seventy days of four or five hours each. Two French years are equivalent to three American years in time and energy given to intellectual education, and, I presume, in intellectual progress.

It may be said, and I suppose with truth, that the American boy gains physical, social and moral advantages denied to his more closely worked French brother. I do not gainsay it: I only ask whether our material is of such tender stuff that it needs two hundred holidays out of three hundred and sixty-five in a year; whether the shortening of school terms has not gone on out of all proportion to the legitimate demands of the boy; whether, without sacrificing health or reasonable sport, or social development, or any other proper diversion, we might not make their intellectual pursuits in the minds of our preparatory students, (and, indeed, also our college students) a more serious part of life to which other interests should be sacrificed.

I have been told that in Russia there are one hundred and eighty legal holidays in a year and that it requires a Russian workman one day to recover from the dissipations of each legal holiday. Is there anything suggestive in this as to the condition of some educational institutions?

It is true that a school without physical or other outside organizations and ambitions is not usually a desirable school, and, moreover, might not be in this country of the all-powerful boy a popular or profitable school. But I would like to do something to rescue and exalt the really ambitious and promising student from the herd of athletes and musicians in which he is now lost. I would like to make it felt that the real hero is the intellectual rather than the physical leader, and that the much maligned "grind" is, in many cases, the boy with a future. Will this not be in the long run to the great advantage of athletic interests, with which I am in great sympathy? Nothing ever prospers permanently by being exalted into a place to which it has no title.

In this connection I think some one needs to say a word about the lack of intellectual ambition, which seems so conspicuous in many young men well prepared for college. Instead of an eagerness to occupy a fascinating field just opening before them, a keen appreciation of the nobility of the possession of the culture and knowledge which may be theirs, there is evident, and I judge from no single college, a disposition to consider that the battle has been won in the passage of the entrance examinations, and that now they are to have the reward in the social and athletic activities of college life. A certain amount of this is unavoidable, but, except in the case of those students who come from isolated country schools under great stress of poverty, it is lamentable to see the indifference with which many excellent students regard their intellectual opportunities. Many recover in later years, but time is lost and enthusiasm frittered away before the recovery begins. May it not be that the energies of the teacher are, almost inevitably with our present arrangements, too exclusively employed in technical preparation, which destroys interest, and is the foe of exalted ambition; and that the colleges too suddenly thrown upon the boys a liberty for which they can have no previous training?

Theoretically the certificate system was to destroy this evil. It was believed, and in many cases rightly, that the preparation for an external examiner, the endless grind over old papers, the years devoted to the object, not of securing an education, but of passing an examination, were fatal to generous enthusiasm and would create a contentment with poor achievements when the goal was reached. To-day we are suffering from this evil in a serious form. The certificate system, however, as often employed, has probably proven itself to possess other evils scarcely less serious. It has so often fallen into deserved discredit that some colleges which have adopted it are finding it necessary to change, preferring not to encounter the reputation of opening an easy way into their membership. If, therefore, the examinations conducted by outside bodies are inevitable, would it not be well to place the most stimulating men in contact with the boys during the last school year and first college year?

I certainly have no disposition to cast the whole blame for this state of affairs upon the schools. The colleges have, probably, an equal share to be responsible for, and the social ideas of the patrons a still larger. It is they who demand the long vacation, the extravagant devotion to athletics, the provision for a "good time" at school and college. The rule of the boy in many families in such cases is absolute, and neither parent nor school is able successfully to resist. But if we know what is right from an educational standpoint, we need not keep quiet because the case is difficult. If we see clearly the causes of the intellectual backwardness of the American boy, we are untrue to our duty if we do not proclaim it. We may be sure that such protests are not wholly unfruitful.

If, however, the long vacations are inevitable, we ought to have more summer work for those who do not wish to waste so much time.

But this is a digression. We were saying that the remediable causes of the loss of time in secondary schools were ill-considered curricula, untrained teachers and short terms. The first is yielding to the treatment of the Committee of Ten, the advice of university faculties and the associated wisdom of the school masters; the second is also mending; the third, so far as my knowledge goes, is as bad as ever. As a net result there is a gradual recovery, and many boys go into our highest colleges at a reasonable age. We all know individual cases of average boys being well prepared at sixteen and seventeen, just enough cases to make us believe it is quite possible in many more, and Harvard University, which has not materially altered its standards for some years, finds that the average age of admission has decreased from nineteen years, seven months, to eighteen years, nine months, between 1889 and 1895, and in the latter year eighteen were admitted under seventeen years of age.

But the movement has not gone far, and eighteen and one-half is still the average age of admission to the best colleges of the Eastern States. It does not seem to have deterred entry. The larger universities are rapidly growing and college students the country over have increased between 1872 and 1895 from 23,000 to 82,000, from 6-100 of 1 per cent to 12-100 of 1 per cent of the total population. This includes, however, a large number of institutions of very low requirements.

Nevertheless, until parents and schools find some effective way to advance their boys and girls faster than they do, the wisdom of adding to their burdens may be seriously questioned.

The six associated universities are out of reach of criticism. They know their own business. Were it not that their standards will have a serious influence on all other institutions within their limits, which are practically coterminous with the nation, (an influence, however, especially strong in their own locality,) it would be manifestly improper for me to say a word.

They are not blind to the tendency. The presiding officer of one of them in his last report after showing conclusively the evils of the advanced age of entrance, as shown in the handicaps upon poor students and the frequent omission of the college course, concludes, "I can think of no other solution than the reduction of the college course as it now exists by one year." Simultaneous with this report appear from the same university increased demands upon the schools, which they immediately construe as necessitating an additional year of preparation. The full effect of both changes will be to give the freshmen year to the schools and make the cleavage between secondary and higher education a year later, or at nineteen and one-half years.

It is on the wisdom of this proposition thus baldly stated, and the consequences which will flow from it, that the discussion should turn.

This is practically the age of admission to European Universities, and if the undergraduate departments of our foremost institutions are, immediately or in the near future, to be the counterparts of Oxford and Berlin, we may all rejoice. We will have ultimately in America all that Europe can furnish and we are approaching the consummation by rapid strides. But we have been led to consider that in our graduate courses leading to a Ph. D. degree we would find our real university students, and that the colleges, including those with university attachments, are in reality preparatory schools in the case of students whose ambitions demand higher work. If the advancing standard, the proposition to substitute a three year's course for a four, the tendency to make nineteen or twenty the entrance age, are all moves in the direction of the establishment of a few institutions strictly devoted to university work, it only remains for the colleges patriotically to adjust themselves to the new conditions, and bear the evils of the transition as placidly as possible.

Indeed this is what we are probably coming to. It is true Harvard announces officially, "In framing the new terms of admission of Harvard college the faculty does not intend to increase the total amount of work required in preparation"; it is true, moreover, that the addition of the year simply places other of the universities side by side with Harvard in the matter of requirements; and that the general expression of dissatisfaction with the advancing age of graduation will probably prevent further movements in this direction for a time at least. But just as the best colleges have found it desirable to do without preparatory departments, so the best universities will find it desirable, when they can afford it, to give their energies exclusively to university work and omit at least the lower classes of their undergraduates who need juvenile care and training. Many schools will, of course, then feed the universities directly, but a place may also be found for the pure college.

Whether the time has now come for the college to appropriate this place by setting up its own standards, making its own relations upwards and downward, is, it seems to me, an open question which may properly be answered differently by different institutions.

I am not speaking for the weak colleges, small by reason of their weakness, having a shifty policy which must by all means get some students in order to exist, but of those colleges with sufficient resources of funds or friends and a sufficiently loyal constituency to be able to determine to some extent their own future. My idea of such a college is one which takes boys from good schools, by rigid examination or certificates, at sixteen or seventeen and maintains a standard not greatly different in amount of requirements from the present standards of the good small colleges of the eastern states.

I suppose such colleges would be, in one sense, anomalous institutions; that there is nothing similar in other countries. They do work which, at least in its lower years, is elsewhere accounted a segment of secondary education; hence it has been frequently proclaimed that there is no place for them, but that the school and the university will in time squeeze them out of existence. Nevertheless we have them here; many of them are sure to live; they have arisen in response to a real demand; they have performed a useful function and deserve well of the republic. They often satisfy a local or denominational need not otherwise supplied, and it may be that a wise policy will increase their hold upon the public confidence and that the present is their opportunity.

It does not seem unreasonable to me to think that the division of secondary education and the relegation of the latter part of it to a wisely directed college would be the very best thing. The English, French and German secondary schools hold their boys, roughly speaking, from twelve to twenty. There are many complaints that the discipline necessary for the small boys is irksome and unprofitable for the older; that the yearly repetition of the regulations and methods of teaching up to manhood become enfeebling to the will power, destructive to honest enthusiasm and produce an unhealthy rebound during the first university year. If the latter half of the time were spent in a college with the minimum of regulations necessary to secure good morals and sound *morale*, leading to a Bachelor's degree, with a normal social life, it would be better, and the question I desire to ask is whether something of this sort is not the best outlook for the small unattached college. Such a college would probably be supported by the following classes of patrons:

1. Many fitting for business who consider twenty-one the very last year when a young man can be induced to attend to the traditional "sweeping the store" with grace to himself and satisfaction to his employer.

2. Many who expect to take professional courses and who wish the intellectual outlook obtained by college life before narrowing themselves to their specialties.

3. Many of more mature years whose early advantages have been slight, who have mainly been prepared in public schools and by personal effort and who have been awakened, perhaps rather late in life, by a book, a lecture, or a conversation to an intense desire to be educated.

4. Many who, for various reasons, social, moral, religious, or intellectual, prefer to begin their collegiate career in such an institution, following it out in the higher undergraduate or graduate courses of the university.

It seems that there might be sustenance for a number of small but strong colleges of a lower grade than the universities propose to maintain, which would have their feeders among the secondary schools and, in their turn, supply the ranks of business men and of professional and graduate schools.

But an objection and, in my opinion, a very serious one, will immediately occur to many of you. How can a different standard be maintained for the two collegiate grades?

If the college has a definite constituency of its own, with its own preparatory schools, or if a group of such colleges is fed from the same preparatory schools, which send only occasional boys to the larger universities, they can set their own standards, and the place I have endeavored to outline can well be filled. But if a small college draws its students from schools whose main purpose is to feed the higher grade of colleges which necessarily determine the standard, the problem becomes very difficult. If it undertakes to secure the boys a year before the completion of their course, it is a procedure which the school will be apt to frown upon, and the public sentiment of the boys, not usually very well instructed, will condemn as being the resource of a cheap institution to underbid the better neighbors. It will be in danger of receiving the fag-end of the classes—those who are not able or do not wish to take what is supposed to be a more severe and exalted course. If, on the other hand, it admits to the sophomore class it will produce something of the same effect in the school, and will receive all the inconveniences which result to itself from the omission of the freshman year.

These considerations may make it necessary to conform to the higher standard as a less evil alternative. Every institution would have to determine this to satisfy its peculiar circumstances.

But there may be, on some such basis as I have attempted to outline, an honorable and assured future for the college as a separate institution. It is to be hoped that it will accept the basis in a liberal spirit. It must not set itself athwart the spirit of the age and assume to itself the unnecessary responsibility of defending ancient ideas and practices. It must rather, without sacrificing the difficulty and dignity of real education, be very alert to, and very closely in touch with, the demands of its constituency. It does not seem to me, for instance, that it is necessary for it to be the special conservator of the Greek language, and what is called the integrity of the Bachelor of Arts degree, with Harvard and Johns Hopkins, and Cornell and Williams and Bryn Mawr, giving the degree without Greek, the revolution is accomplished. If it be treason, they have made the most of it and succeeded. While the amount and quality of Greek in a college may be the best measure of its scholarship, there are certainly some students who need a liberal culture and are capable of securing it without Greek, who should be, when they succeed, crowned with the degree which now and in past ages stands and has stood for liberal culture.

Such colleges,—honest in every published statement, manned by sympathetic and scholarly officials whose main interests lie in the welfare of the students as individuals, equipped with all supplies of books and apparatus their needs demand, drawing their students to themselves by ample provision for and interest in every justifiable athletic and social function, stimulating intellectual ambitions which will find their natural outlet in the large universities, fitting them by effective training for successful careers in these universities,—such colleges have certainly a place of no small importance in our American system. ISAAC SHARPLESS.

HAVERFORD COLLEGE,
HAVERFORD, PA.

THE FUNCTION OF EDUCATION IN DEMOCRATIC SOCIETY.*

What the function of education shall be in a democracy will depend on what is meant by democratic education.

Too many of us think of education for the people as if it meant only learning to read, write and cipher. Now, reading, writing, and simple ciphering are merely the tools by the diligent use of which a rational education is to be obtained through years of well-directed labor. They are not ends in themselves, but means to the great end of enjoying a rational existence. Under any civilized form of government, these arts ought to be acquired by every child by the time it is nine years of age. Competent teachers, or properly conducted schools, now teach reading, writing, and spelling simultaneously, so that the child writes every word it reads, and, of course, in writing spells the word. Ear, eye, and hand thus work together from the beginning in the acquisition of the arts of reading and writing. As to ciphering, most educa-

*[In an editorial in the *Educational Review* for December, Dr. Butler says of President Eliot's article on The Function of Education in Democratic Society in the *Outlook* for November 6, that it is the most concise and cogent view of the wholly admirable scheme of elementary education, for which the author has so long and so persistently contended, that he has yet given us. This paper, the editor of the *Review* continues, should be printed as a tract and spread broadcast over the United States. We quite agree with Dr. Butler, and with the consent of the editors of the *Outlook*, we print the article entire in this issue of the JOURNAL OF PEDAGOGY. In doing so we depart from our rule not to reprint articles that have appeared in other publications.—THE EDITOR.]

tional experts have become convinced that the amount of arithmetic which an educated person, who is not some sort of computer, needs to make use of is but small, and that real education should not be delayed or impaired for the sake of acquiring a skill in ciphering which will be of little use either to the child or to the adult. Reading, writing, and arithmetic, then, are not the goal of popular education.

The goal in all education, democratic or other, is always receding before the advancing contestant, as the top of a mountain seems to retreat before the climber, remoter and higher summits appearing successively as each apparent summit is reached. Nevertheless, the goal of the moment in education is always the acquisition of knowledge, the training of some permanent capacity for productiveness or enjoyment, and the development of character. Democratic education being a very new thing in the world, its attainable objects are not yet fully perceived. Plato taught that the laborious classes in a model commonwealth needed no education whatever. That seems an extraordinary opinion for a great philosopher to hold; but, while we wonder at it, let us recall that only one generation ago in our Southern States it was a crime to teach a member of the laborious class to read. In feudal society education was the privilege of some of the nobility and clergy, and was one source of the power of these two small classes. Universal education in Germany dates only from the Napoleonic wars; and its object has been to make intelligent soldiers and subjects rather than happy freemen. In England the system of public instruction is but twenty-seven years old. Moreover, the fundamental object of democratic education—to lift the whole population to a higher plane of intelligence, conduct, and happiness—has not yet been perfectly apprehended even in the United States. Too many of our own people think of popular education as if it were only a protection against dangerous superstitions, or a measure of police, or a means of increasing the national productiveness in the arts and trades. Our generation may therefore be excused if it has but an incomplete vision of the goal of education in a democracy.

I proceed to describe briefly the main elements of instruction and discipline in a democratic school. As soon as the easy use of what I have called the tools of education is gained, and even while this familiarity is being gained, the capacities for productiveness and enjoyment should begin to be trained through the progressive acquisition of an elementary knowledge of the external world. The democratic school should begin early—in the very first grades—the study of nature; and all its teachers should, therefore, be capable of teaching the elements of physical geography, meteorology, botany, and zoölogy, the whole forming in the child's mind one harmonious sketch of its complex environment. This is a function of the primary school teacher which our fathers never thought of, but which every passing year brings out more and more clearly as a prime function of every instructor of little children. Somewhat later in the child's progress toward maturity the great sciences of chemistry and physics will find place in its course of systematic training. From the seventh or eighth year, according to the quality and capacity of the child, plane and solid geometry, the science of form, should find a place among the school studies, and some share of the child's attention that great subject should claim for six or seven successive years. The process of making acquaintance with external nature through the elements of these various sciences should be interesting and enjoyable for every child. It should not be painful, but delightful, and through it all the child's skill in the arts of reading, writing, and ciphering should be steadily developed.

There is another part of every child's environment with which he should early begin to make acquaintance—namely, the human part. The story of the human race should be gradually conveyed to the child's mind from the time he begins to read with pleasure. This story should be conveyed quite as much through biography as through history; and with the descriptions of facts and real events should be entwined charming and uplifting products of the imagination. I cannot but think, however, that the wholly desirable imaginative literature for children remains, in large measure, to be written. The mythologies, Old Testament stories, fairy tales, and historical romances on which we are accustomed to feed the childish mind contain a great deal that is perverse, barbarous, or trivial; and to this infiltration into children's minds, generation after generation of immoral, cruel, or foolish ideas is probably to be attributed in part the slow ethical progress of the race. The common justification of our practice is that children do not apprehend the evil in the mental pictures with which we so rashly supply them. But what should we think of a mother who gave her child dirty milk or porridge on the theory that the child would not assimilate the dirt? Should we be less careful of mental and moral food-materials? It is, however, as undesirable as it is impossible to try to feed the minds of children only upon facts of observation or record. The immense product of the imagination in art and literature is a concrete fact with which every educated human being should be made somewhat familiar, such products being a very real part of every individual's actual environment.

Into the education of the great majority of children there enters as an important part their contribution to the daily labor of the household and the farm, or at least of the household. It is one of the serious consequences of the rapid concentration of population into cities and large towns, and of the minute divisions of labor which characterizes modern industries, that this wholesome part of education is less easily secured than it used to be when the greater part of the population was engaged in agriculture. Organized education must, therefore, supply in urban communities a good part of the manual and moral training which the co-operation of children in the work of father and mother affords in agricultural communities. Hence the great importance in any urban population of facilities for training children to accurate hand-work, and for teaching them patience, forethought, and good judgment in productive labor.

Lastly, the school should teach every child, by precept, by example, and by every illustration its reading can supply, that the supreme attainment for any individual is vigor and loveliness of character. Industry, persistence, veracity, in word and act, gentleness, and disinterestedness should be made to thrive and blossom during school life in the hearts of the children who bring these virtues from their homes well started, and should be planted and tended in the less fortunate children. Furthermore, the pupils should be taught that what is virtue in one human being is virtue in any group of human beings, large or small—a village, a city, or a nation; that the ethical principles which should govern an empire are precisely the same as those which should govern an individual; and that selfishness, greed, falseness, brutality and ferocity are as hateful and degrading in a multitude as they are in a single savage.

The education thus outlined is what I think should be meant by democratic education. It exists to-day only among the most intelligent people, or in places singularly fortunate in regard to the organization of their schools; but though it be the somewhat distant ideal of democratic education, it is by no means an unattainable ideal. It is the reasonable aim of the public school in a thoughtful and ambitious democracy. It, of course, demands a kind of teacher much above the elementary-school teacher of the present day; and it also requires a larger expenditure upon the public school than is at all customary as yet in this country. But that better kind of teacher and that larger expenditure are imperatively called for if democratic institutions are to prosper and to promote continuously the real welfare of the mass of the people. The standard of education should not be set at the now attained or the now attainable. It is the privilege of public education to press toward a mark remote.

From the total training during childhood there should result in the child a taste for interesting and improving reading, which should direct and inspire its subsequent intellectual life. That schooling which results in this taste for good reading, however unsystematic or eccentric the schooling may have been, has achieved a main end of elementary education; and that schooling which does not result in implanting this permanent taste has failed. Guided and animated by this impulse to acquire knowledge and exercise his imagination through reading, the individual will continue to educate himself all through life. Without that deep-rooted impulsion he will soon cease to draw on the accumulated wisdom of the past and the new resources of the present; and, as he grows older, he will live in a mental atmosphere which is always growing thinner and emptier. Do we not all know many people who seem to live in a mental vacuum —to whom, indeed, we have great difficulty in attributing immortality, because they apparently have so little life except that of the body? Fifteen minutes a day of good reading would have given any one of this multitude a really human life. The uplifting of the democratic masses depends on this implanting at school of the taste for good reading.

Another important function of the public school in a democracy is the discovery and development of the gift or capacity of each individual child. This discovery should be made at the earliest practicable age, and, once made, should always influence, and sometimes determine, the education of the individual. It is for the interest of society to make the most of every useful gift or faculty which any member may fortunately possess; and it is one of the main advantages of fluent and mobile democratic society that it is more likely than any other society to secure the fruition of individual capacities. To make the most of any individual's peculiar power, it is important to discover it early, and then train it continuously and assiduously. It is wonderful what apparently small personal gifts may become the means of conspicuous service or achievement, if only they get discovered, trained, and applied. A quick eye for shades of color enables a blacksmith to earn double wages in sharpening drills for quarrymen. A delicate sense of touch makes the fortune of a wool-buyer. An extraordinarily perceptive forefinger gives a surgeon the advantage over all his competitors. A fine voice, with good elocution and a strong memory for faces and parliamentary rules, may give striking political success to a man otherwise not remarkable. In the ideal democratic school no two children would follow the same course of study or have the same tasks, except that they would all need to learn the use of the elementary tools of education—reading, writing, and ciphering. The different children would hardly have any identical needs. There might be a minimum standard of attainment in every branch of study, but no maximum. The perception of discovery of the individual gift or capacity would often be effected in the elementary school, but more generally in the secondary; and the making of these discoveries should be held one of the most important parts of the teacher's work. The vague desire for equality in a democracy has worked great mischief in democratic schools. There is no such thing as equality of gifts, or powers, or faculties, among either children or adults. On the contrary, there is the utmost diversity; and education and all the experience of life increase these diversities, because school, and the earning of a livelihood, and the reaction of the individual upon his surroundings, all tend strongly to magnify innate diversities. The pretended democratic school with an inflexible programme is fighting not only against nature, but against the interests of democratic society. Flexibility of programme should begin in the elementary school, years before the period of secondary education is reached. There should be some choice of subjects of study by ten years of age; and much variety by fifteen years of age. On the other hand, the programmes of elementary as well as of secondary schools should represent fairly the chief divisions of knowledge—namely, language and literature, mathematics, natural science, and history, besides drawing, manual work, and music. If school programmes fail to represent the main varieties of intellectual activity, they will not afford the means of discovering the individual gifts and tendencies of the pupils.

As an outcome of successful democratic education, certain habits of thought should be well established in the minds of all the children before any of them are obliged to leave school in order to help in the support of the family. In some small field each child should acquire a capacity for exact observation, and as a natural result of this acquirement it should come to admire and respect exact observation in all fields. Again, in some small field it should acquire the capacity for exact description, and a respect for exact description in all fields. And, lastly, it should attain, within the limited range of its experience and observation, the power to draw a justly limited inference from observed facts. I need not say that this power of just inference is an admirable one, which many adults never attain as the combined result of their education in childhood and their experience in after life. Yet democratic institutions will not be safe until a majority of the population can be trusted, not only to observe accurately and state precisely the results of observation, but also to draw just inferences from those results. The masses of the people will always be liable to dangerous delusions, so long as their schools fail to teach the difference between a true cause and an event preceding or accompanying a supposed effect. Thus a year ago our nation came to the very brink of a terrible disaster, because millions of our people thought the fall in the price of silver during the past twenty years was the cause of the fall in price of many other American products; whereas the prime cause of the general fall of prices, including the price of silver, was the immense improvement which has taken place since the Civil War in the manufacture and distribution of mechanical power—an operating cause which in the near future is going to produce much more striking effects than it has yet produced.

Any one who has attained to the capacity of exact observation and exact description, and knows what it is to draw a correct inference from well-determined premises, will naturally acquire a respect for these powers when exhibited by others in fields unknown to him. Moreover, any one who has learned how hard it is to determine a fact, to state it accurately, and to draw from it the justly limited inference, will be sure that he himself cannot do these things except in a very limited field. He will know that his own personal activity must be limited to a few subjects if his capacity is to be really excellent in any. He will be sure that the too common belief that a Yankee can turn his hand to anything is a mischievous delusion. Having, as a result of his education, some vision of the great range of knowledge and capacity needed in the business of the world, he will respect the trained capacities which he sees developed in great diversity in other people; in short, he will come to respect and confide in the expert in every field of human activity. Confidence in experts, and willingness to employ them and abide by their decisions, are among the best signs of intelligence in an educated individual or an educated community; and in any democracy which is to thrive, this respect and confidence must be felt strongly by the majority of the population. In the conduct of private and corporation business in the United States, the employment of experts is well recognized as the only rational and successful method. No one would think of building a bridge or a dam, or setting up a power station or a cotton-mill, without relying absolutely upon the advice of intelligent experts. The democracy must learn, in govermental affairs, whether municipal, State, or National, to employ experts and abide by their decisions. Such complicated subjects as taxation, finance, and public works cannot be wisely managed by popular assemblies or their committees, or by executive officers who have no special acquaintance with these most difficult subjects. American experience during the last twenty years demonstrates that popular assemblies have become absolutely incapable of dealing wisely with any of these great subjects. A Legislature or a Congress can indicate by legislation the object it wishes to attain; but to devise the means of attaining that object in taxation, currency, finance, or public works, and to expend the money appropriated by the constituted authorities for the object, must be functions of experts. Legislators and executives are changed so frequently under the American system of local representation that few gain anything that deserves to be called experience in legislation or administration; while the few who serve long terms are apt to be so absorbed in the routine work of carrying on the government and managing the party interests that they have no time either for thorough research or for invention. Under present conditions neither expert knowledge nor intellectual leadership can be expected of them. Democracies will not be safe until the population has learned that governmental affairs must be conducted on the same principles on which successful private or corporate business is conducted; and therefore it should be one of the principal objects of democratic education so to train the minds of the children that when they become adult they shall have within their own experience the grounds of respect for the attainments of experts in every branch of governmental, industrial, and social activity, and of confidence in their advice.

The next function of education in a democracy should be the firm planting in every child's mind of certain great truths which lie at the foundation of the democratic social theory. The first of these truths is the intimate dependence of each human individual on a multitude of other individuals, not in infancy alone, but at every moment of life—a dependence which increases with civilization and with the development of urban life. This sense of mutual dependence among multitudes of human beings can be brought home to children during school life so clearly and strongly that they will never lose it. By merely teaching children whence come their food, drink, clothing, and means of getting light and heat, and how these materials are supplied through the labors of many individuals of many races, scattered all over the world, the school may illustrate and enforce this doctrine of intricate interdependence, which really underlies modern democracy—a doctrine never more clearly expressed than in these two Christian sentences, "No man liveth to himself," and "We are every one members one of another." The dependence of every family, and indeed every person, on the habitual fidelity of mechanics, purveyors, railroad servants, cooks, and nurses can easily be brought home to children. Another mode of implanting this sentiment is to trace in history the obligations of the present generation to many former generations. These obligations can be easily pointed out in things material, such as highways, water-works, fences, houses, and barns, and, in New England at least, the stone walls and piles of stone gathered from the arable fields by the patient labor of predecessors on the family farm; but it may also be exhibited to the pupils of secondary schools, and in some measure to the pupils of elementary schools, in the burdens and sufferings which former generations have borne for the establishment of freedom of conscience and of speech, and of toleration in religion, and for the development of the institutions of public justice. Of course, history is full of examples of the violation of this fundamental democratic doctrine of mutual help. Indeed, history, as commonly written, consists chiefly in the story of hideous violations of this principle, such as wars and oppressions, and the selfish struggles of class against class, church against church, and nation against nation; but these violations, with the awful sufferings that follow from them, may be made to point and emphasize the truth of the fundamental doctrine; and unless the teaching of history in our schools does this, it were better that the subject should not be taught at all.

Democratic education should also inculcate on every child the essential unity of a democratic community, in spite of the endless diversities of function, capacity, and achievement among the individuals who compose the community. This is a doctrine kindred with that just mentioned, but not identical. It is a doctrine essential to diffused democratic contentment and self-respect, but materially different from the ordinary conception of equality of conditions as a result of democracy; for unity is attainable, while equality of conditions is unnatural and unattainable. The freedom and social mobility which characterize the democratic State permit, and indeed bring about, striking inequalities of condition; and if the surface of democratic society should be leveled off any day, inequalities would reappear on the morrow, unless individual freedom and social mobility should be destroyed. The children of a democratic society should, therefore, be taught at school with the utmost explicitness, and with vivid illustrations, that inequalities of condition are a necessary result of freedom; but that through all inequalities should flow the constant sense of essential unity in aim and spirit. This unity in freedom is the social goal of democracy, the supreme good of all ranks of society, of the highest no less than of the lowest.

Another ethical principle which a democracy should teach to all its children is the familiar Christian doctrine that service rendered to others is the surest source of one's own satisfaction and happiness. This doctrine is a tap-root of private happiness among all classes and conditions of men; but in a democracy it is important to public happiness and well-being. In a democracy the public functionary is not a master, but a trusted servant. By excellence of service he earns not only a pecuniary consideration, but also respect and gratitude. This statement applies just as well to a letter-carrier, a fireman, or a village selectman, as it does to a high-school teacher, a judge, or a governor. Democracy applies literally the precept, "If any man would be great among you, let him be your servant." The quality of his faithful service and its rewards should be carefully taught in school to all children of a democracy. The children should learn that the desire to be of great public service is the highest of all ambitions; and they should be shown be shown in biography and in history how the men and women who, as martys, teachers, inventors, legislators, and judges, have rendered great service, have thereby won enduring gratitude and honor.

Since it is a fundamental object of a democracy to promote the happiness and well-being of the masses of the population, the democratic school should explicitly teach children to see and utilize the means of happiness which lie about them in the beauties and splendors of nature. The school should be a vehicle of daily enjoyment, and the teacher should be to the child a minister of joy. Democratic society has already learned how to provide itself, at least in the more intelligent communities, with open grounds in cities, parks in suburbs, and has in these ways begun to provide directly for the wholesome pleasures of the population. It should be a recognized function of the democratic school to teach the children and their parents how to utilize all accessible means of innocent enjoyment.

Finally, the democratic school must teach its children what the democratic nobility is. The well-trained child will read in history and poetry about patricians, nobles, aristocrats, princes, kings and emperors, some of them truly noble but many vile; and he will also read with admiring sympathy of the loyalty and devotion which through all the centuries have been felt by generous men and women of humbler condition toward those of higher. He will see what immense virtues these personal loyalties have developed, even when the objects of loyalty have been unworthy; and he will ask himself, What are to be the corresponding virtues in a democracy? The answer is, Fidelity to all forms of duty which demand courage, self-denial, and zeal, and loyal devotion to the democratic ideals of freedom, serviceableness, unity, toleration, public justice, and public joyfulness. The children should learn that the democratic nobility exists, and must exist if democracy is to produce the highest types of character; but that it will consist only of men and women of noble character produced under democratic conditions by the combined influences of fine inherited qualities, careful education, and rich experience. They should learn to admire and respect persons of this quality, and to support them, on occasion, in preference to the ignoble. They should learn that mere wealth has no passport to the democratic nobility; and that membership in it can be transmitted to children only through the transmission of the sound mental and moral qualities which are its sole warrant. This membership should be the rightful ambition of parents for their children, and of children for their future selves. Every person of the true quality, no matter what his station or vocation, is admitted of right to this simple democratic nobility, which home, church, and school unite in recruiting; and there are, consequently, more real nobles under the democratic form of government than under any other.

C. W. ELIOT.

Harvard University.

LEARNING WITHOUT BOOKS.

We usually look for progress by the increase of present tendencies, and seldom think that those features which are the pride of the present may also be transitory. The invention of printing first made a general education and culture possible. Since that time the thought of an education has been so bound up with the idea of books, that it scarcely seems possible to have the former without the latter. This age is peculiarly an age of books. Every church, school, city, state, must have its library, and these libraries are the most beautiful architectural feature in our country to-day. Their educational importance is equal, I believe, to our entire school system from the kindergarten to the university.

Nevertheless, I believe that another time is already upon us, that the age of book worms and book worshippers is drawing to a close. We do not often think how mechanical this book knowledge is; that book language is forever a foreign language to the soul, which never escapes the necessity of a translation. The world at large is wont to look upon books as the repositories of all wisdom, although we know they are only the skimmings from nature's sea, and are just as fallible as the men who wrote them. It is absurd, the way some people refer to books to find what something is like, when the object itself is before them. I believe that many of our teachers have almost no conception of any education other than a book education. The child who takes up a leaf and examines it, seems to them to be wasting his time; but, if he goes to a botany and reads that it is cuneiform and netted veined, he is improving his mind. The painter must feel the beauty in nature before he can paint his picture. The philosopher must think before he can write his philosophy. The scientist must observe and experiment before he can proclaim his new fact or principle. Why should we not go to the original sources as well as they, and not deal forever with translations? While the ancient languages or any language or philosophy is the center of culture, books must flourish. But this age is an age of science, and the laboratory method is *the* method of science at present. The world is tiring of philosophy as a thing in itself, and seeking it as an aid to research. It is no longer necessary for a man to read books in order to be educated or even learned. All our cities are becoming cosmopolitan. One who lives in a large city and keeps his eyes open, finds that the city itself offers him a liberal education in its parks, museums, art galleries, theatres, manufactories, and trade. Almost anything that he desires to know about he can go and see directly.

And one can get a much better idea about the manufacture of an article, for instance, from visiting the manufactory than by reading any description of it. Our parks and museums familiarize us with almost every important form of animal and vegetable life. Cheap rates of transportation allow even those of moderate means to see many things of interest at a distance, while our county fairs, state's fairs and world's fairs bring the world to our doors. Probably there never was another time when one could learn so much, so cheaply, and in so brief a time, as at the World's Fair in Chicago.

City governments are beginning to recognize the education of their people as one of their functions. There are many extensions which might be made at only a trifling expense. Our large city green houses, where the conditions of all climates are reproduced, should at least show us all the more important food products, just as they grow. Suppose a large green house, divided into compartments; each compartment representing a country; in this room all the chief products of that country would be grown, under as nearly similar conditions as possible. Adjoining this might be another room, where its industries and the manufacture of its raw products might be shown by models. I believe a bright grammar school pupil would learn more that he would remember, from two or three visits to such rooms than he would from studying the geography for a year. I anticipate that models of industries are to have a large place in the industrial museums of the future.

But this is not the only way that printed matter is losing its relative importance at present. All literature demands graphic methods. Truths are told by lines and curves whereever possible, and everything must be illustrated. The kinetoscope seems almost to seal the fate of the age of books; for it allows the world to witness all great events as well as scenes.

I anticipate that the *theater* will some day either be connected with the school system or else be controlled by the city, something as parks and museums now are. People often think of the theater as an evil, as a dime novel sort of literature. It often is an evil, but it is not to be classed with any particular kind of literature. The theater stands for a method of expression. The chief ways of imparting truth are by conversation, by pictures or models, by literature, and the drama. But of all these, the drama is by far the most perfect; as it most closely represents the truth it would convey. It is most like actual life. The theater of ancient Athens was supported by the state. Today the theaters of Germany and France receive government subsidies. Why is there not as much reason for our cities to subsidize a good opera as to support an art gallery? Almost any truth that contains an idea of action can be better represented dramatically than in any other way. Our theaters are operated to-day to furnish the public amusement and excitement, and they are a success. Would they not succeed equally well if their purpose were instruction?

One can not be highly educated in the modern sense from books alone. In the face of all these things, we should be very careful how we teach the children the contents of a few books and think we have educated them. Book knowledge may always have the charge of impracticality preferred against it. It is less often called up by our every day experience; its lessons are less easily applied; they are acquired with greater difficulty and more easily forgotten than lessons from observation and experience. We must teach the children to observe and study the objects of their environment. It is these that will touch their lives the oftenest. In these they have a natural interest, and in such study much of the education of the future must consist. The problems, which life gives every man to solve, can not be solved from books. One must learn to study from nature herself, those things on which his success depends. *That man is best educated, who knows, or knows best how to find out those things* *which he most needs to know in business and in life.*

In the face of these increased facilities for studying things and gaining our knowledge at first hand, what should be our attitude toward the world of books? It seems to me that the study of things should everywhere come first. Because, as a rule, objects are more interesting than books. Who would not be more interested in looking at an elephant or a palm tree than in reading a description of one? Having first observed an object and tried to answer the questions it suggests, a person is ready to take up some book on the subject and rapidly absorb its contents. The trouble with reading books first is, that they answer the questions before we ask them. But a man is never in the right mental attitude to secure a truth until he has earnestly sought for it. I believe this is true all along the line of truth. A man is never fitted to know what science has to say about an object until he has observed it and tried to fit it into his science. A man is never ready to read another man's philosophy until he has first tried to solve these questions himself. A man is never fitted to appreciate art or criticize it who has not sat at nature's feet, as the artist has done. But, for the child, this is much more true than for adults. The difficulty of reading is so much greater that it is hard for him to get much interested in an object from reading about it. But children have a natural interest in things. They have the scientific attitude from their earliest years. Observation and experiment with things make up nearly all their lives at first. They are intensely interested in almost everything that lives and moves. I believe that our children might be better educated without teaching them to read at all than they usually are at present. It is at least as important to be able to observe well as to be able to read well. It would be more interesting to the child, and much more healthful, but when we read books let us do it to help us in definite problems, not read through libraries for general information.

Olivet, Mich. H. S. CURTIS, PH. D.

NOTES AND NEWS.

Besides the full information which each issue of the *Western Reserve University Bulletin* contains in regard to the work of Western Reserve University, there will be found a number of contributions dealing with scientific or educational subjects. These contributions are from the faculty, and reflect the scholarly spirit which pervades all the departments of Western Reserve University. In the October issue there are three articles of unusual value—The Field of Psychology, by Professor Robert MacDougall; Graduate Study in America, by Professor Robert W. Deering; and Certain Conditions in American Colleges, by President Charles F. Thwing. Every teacher interested in whatever has to do with the promotion of scholarship and culture in the broadest sense will be glad to have this *Bulletin* for reference.

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The New York State Science Teachers' Association held an interesting and well attended meeting at Ithaca, December 30 and 31. Some of the leading topics discussed were physical laboratory work in secondary schools, the use of the lantern in science teaching, the teaching of botany in secondary schools, and physical and natural sciences as subjects for college entrance. Perhaps the most important feature of the meeting was the report of the Committee of Nine on the following subjects: (1) The recognition of science as a requirement for entrance to college; (2) science courses for secondary schools; and (3) nature study in elementary schools. This report we hope to publish in full in our next issue. Dr. Charles W. Hargitt, Professor of Biology in Syracuse University, was elected president for the coming year.

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The recent expansion of the chair of education in the University of Wisconsin into the School of Education is another recognition which pedagogy is receiving in this country as a subject of university study. Dr. J. W. Stearns remains in the University as director of the School of Education, while Professor M. V. O'Shea has been added to the faculty of the school as professor of the science and art of teaching. The University of Wisconsin has made an eminently wise choice in the selection of Professor O'Shea for this important chair in its School of Education. No man in this country has done more to present the results of modern psychological research in such a way as to be of practical benefit to teachers in our public schools than Professor O'Shea. From the work he has already done in the direction of suggesting more rational methods of procedure in dealing with children through all grades of school life, it is safe to predict from him in his new field of work more important contributions to theoretical and practical pedagogy than have yet been made in this country.

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Though the approaching session of the legislature of the state of New York is sure to enact more or less unwise legislation, it will beyond question re-elect the Hon. Charles R. Skinner Superintendent of Public Instruction. So far as we know there is no sentiment against the continuance of Mr. Skinner in the office whose duties he has so acceptably discharged during the past three years. There was an attempt on the part of the politicians three years ago to prevent his election, but it soon became evident that the educational sentiment of the state demanded Mr. Skinner as the head of the school system. Mr. Skinner is in sympathy with the best educational thought of the day, and in so far as he has been able to exercise any influence in shaping the educational policy of the Empire state he has been on the side of progress. In spite of the tremendous political influence which is always brought to bear upon the Department of Public Instruction, the present State Superintendent has displayed the courage of his convictions in his decisions. For the most part his appointments have been good. In cases where there may have seemed room for improvement, he was compelled to abide by the results of the civil service examinations. Until the present rules are modified it will not always be possible to select for places of responsibility men with the requisite experience and training as educators.

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We are glad to note the early appearance of the proceedings of the last meeting of the National Educational Association, held in Milwaukee last July. In addition to the papers and discussions of the general association, the National Council, and the fifteen different departments, the volume contains in full the report of the Committee of Twelve on Rural Schools, the third report of national importance recently issued. This report, in our judgment, promises to be no less influential in shaping educational sentiment and progress than the other two, viz., the report of the Committee of Ten on Secondary Schools, issued in 1893, and the report of the Committee of Fifteen on Elementary Schools, issued in 1895. With but few exceptions, the papers and addresses in the proceedings of the Milwaukee meeting do not fall below the standard of preceding years. The volume is worthy a place in every teacher's library. Teachers who are not members of the National Educational Association can obtain a copy of the proceedings by sending two dollars to the secretary, Irwin Shepard, Winona, Minn.

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Besides the unanimous re-election of Mr. Skinner, the legislature could promote the educational interests of the state by making the term of service of the State Superintendent six years instead of three. As long as the choice of the State Superintendent remains with the legislature there is always danger that political influence rather than fitness for the position will determine the selection of this important officer. The operation of such a law in the case of Mr. Draper, six years ago, would have been of incalculable benefit to the educational interests of the state. In defiance of the sentiment of the entire teaching force of the state, the majority in the legislature, which happened to be of a different political party from that to which the Superintendent of Public Instruction belonged, displaced Mr. Draper. The repetition of crimes like this—for the failure to re-elect Mr. Draper was an educational crime—can only be prevented by increasing the length of the Superintendent's term to six years, at least. More care, we believe, would be taken in the selection of so responsible an educational officer for a term of six years than for a term of three years, for legislator-politicians excuse themselves on the ground that no man, however inefficient or evil-disposed, can bring about much serious harm to the educational interests of the state during a short term of three years. On the other hand it is equally true that a three years' term is not long enough for a State Superintendent to accomplish much good, especially if the political whirligig is likely to prevent his retention in office at the close of his first term.

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The report of the Commissioner of Education for the year 1895-96 has just been issued in two volumes of a thousand pages each. It is not the least important reform brought about by the present Commissioner that the annual reports appear far more promptly than in the earlier years of the Bureau of Education. As a consequence the statistical information they contain is of more value because of its comparative recency. Besides the vast amount of school statistics in the report for 1895-96 there is brought together a large amount of educational literature that will be found useful to every student of education. Among some of the most noticeable chapters, after the introduction by Commissioner Harris, are those on the English Education Bill of 1896, Education in Great Britain and Ireland, Music in German Schools, Education in France, Commercial Education in Europe, Correlation of Studies, Higher and Secondary

Education in the United States, the Bertillon System as a Means of Suppressing the Business of living by Crime, and Mental Fatigue in School. Dr. A. D. Mayo continues his historical studies begun in previous volumes, having two interesting chapters, one on the American Common School in New York, New Jersey and Pennsylvania during the first half-century of the Republic, the other on the American Common School in the Southern States during the first half of the Republic, 1790-1840.

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Reports from Cornell University would indicate that the elective system now in full force in the department of Arts and Sciences is working admirably. As this system of election has been in force in the junior and senior years for a long time, the interest now lies in the choice of courses by freshmen and sophomores, whose work, previously prescribed, is now open to election. An examination of the reports of the first term of the present year shows that classics and mathematics have rather more than held their own. The Latin department has shown an increase of twenty per cent. over last year (not a very serious "blow to the classics"). Greek has shown a falling off, but not so great numerically as is the gain in Latin. Mathematics, by which is meant the mathematics formerly prescribed to freshmen in the *general courses*, has shown an actual gain, a somewhat surprising fact. Physics and chemistry show gains. History, political science, German, and philosophy have gained. French, botany, and geology remain at a standstill. Freshman rhetoric has fallen off, but less than was anticipated. The striking thing is that while every professor reports being rid of the unwilling workers, yet the balance of the classes has not been very much affected. Freshmen are still taking classics and mathematics as they always have, and the impression at this stage of the experiment seems to be that the changes in Cornell the first term of the new system are hardly greater than have been seen from year to year. Exact figures are not yet at hand, and it will be some time before the data for a detailed comparison can be had. School and college men are anxiously watching the working of the Cornell plan.

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When the publication of the JOURNAL OF PEDAGOGY was undertaken ten years ago there were but few educational papers in this country that devoted much space to the full discussion of educational questions. The scrappiness of the average American journal of education was in striking contrast to the educational papers of other countries, notably England and Germany. *The Academy*, since then discontinued, and *Education* were the only educational magazines that appealed to educated and thoughtful teachers. But the situation to-day is quite different. *The Educational Review*, edited by Dr. Nicholas Murray Butler, *The School Review*, edited by Professor C. H. Thurber, and the *Pedagogical Seminary*, edited by G. Stanley Hall, are in all respects equal to the best European journals of education, and are read with interest and profit by every student of education whether in school or college. As a sample of the marked advance in the character of the contributions now made to the educational magazines, the December issue of *The School Review* may be referred to. There are in this number nearly a hundred pages of solid connected discussions of live educational topics. Dr. Fred W. Atkinson treats most suggestively the question of the capacities of secondary school students. Dr. W. H. Burnham offers some suggestions from the psychology of adolescence, which every high school teacher should heed. President W. J. Tucker argues for the integrity of the college unit. Professor John H. Wright defends the three years' college course, while Professor Thos. D. Seymour earnestly opposes any shortening of the traditional four years' course. It does not seem to us that more food for thought can be got together in a single issue of a magazine than is found in the December *School Review*.

Just as we go to press the Conference of the Associated Academic Principals of New York closes one of the most successful meetings in its history. Dr. O. D. Robinson, the president, deserves great credit for his work, both in the preparation of the program as well as in the conduct of the Conference while in session. A hundred more principals were present this year than in any previous year, and it is admitted that in pedagogical spirit and in the character of the papers and discussions the meeting was an advance over other years. President Allen began the good work last year by departing from the rule forbidding the reading of carefully prepared papers, and it is encouraging to note that whatever sentiment there has been in the Conference against the reading of formal papers seems to have disappeared. Until last year the meetings of the Academic Conference were confessedly on a lower level than those of similar organizations in other states, notably the Association of Colleges and Preparatory Schools of the Middle States and Maryland. Too much attention was devoted to inconsequential topics, such as grow out of the Regents' examinations, while questions of fundamental importance to secondary and higher education were passed by with slight attention. The question whether or not Cæsar should have two or four credits in the Regents' examination received more attention and consumed more time than topics of vital importance. In many instances the meetings were characterized by an aimlessness that made much of the discussions valueless. The result has been that until the past two years the Conference has contributed little of permanent or even temporary worth to the pedagogical literature of the country. But *nous avons changé tout cela*, and it will be seen that the volume of proceedings of the meeting for 1897 will present a pleasing contrast to the discussions of meetings held four or five years ago.

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The decision of the executive committee of the National Educational Association to hold the next annual meeting at

Washington, D. C., gives general satisfaction. The time of the meeting will be from Thursday, July 7th, to Tuesday, July 12th, inclusive. It is expected that the National Council will meet during the two days before the opening of the general association. The local authorities have given assurances that the most ample provision will be made for the entertainment of fifty thousand visitors at reasonable rates. Already the Trunk Line and Central Passenger associations have granted one fare for the round trip, plus two dollars membership fee, with extension to August 31st. There is reason for believing that President Greenwood will prepare a strong program. It is earnestly to be hoped that he will follow the policy of Dr. Butler two years ago of keeping from the program the platitudinarians and the givers-forth of glittering generalities. In the past history of the National Educational association there have been too many of this class of men on the program. Those of us who were at Toronto six years ago will recall the fact that the speakers from the United States, with a few exceptions, compared unfavorably with those from the Canadian side. We are, however, far from asserting that the standard of scholarly attainment among our leading educators is lower in the United States than in Canada. The simple fact is that the ability too often displayed in the program of the National Association is in no sense representative of the highest scholarship and culture in our teaching ranks. At the Toronto meeting the Canadians put forth only their best men, while the men who represented the United States were in many cases not looked upon at home as leaders in educational thought. Since that meeting there has been a marked change for the better, and on the programs are now frequently found men and women who possess the power that comes from profound scholarship and broad culture. There is still room for improvement in this respect, and we are confident that President Greenwood will seek to make a program that will reflect the best educational thinking in the land.

It is significant that the Conference of the Associated Academic Principals of the State of New York passed at its meeting referred to above the following resolutions: (1) that the Superintendent of Public Instruction of the State of New York be urged to encourage the introduction of Latin or of some other foreign language in the eighth and ninth grades; (2) that the study of arithmetic should be simplified, and that the time given to this subject may be somewhat abridged; (3) that the teaching of geography should be greatly improved; that this improvement may be secured by giving greater prominence to relief forms and other physical features as a basis for other work, and that history should be correlated with work in geography, and (4) that the grammar school curriculum should be enriched; but that great care is necessary in making experiments in this direction on a large scale. In former years some of the reforms called for in these resolutions were vigorously assailed. President Eliot has come in for his share of criticism for his attempts to "enrich" the grammar school course, but those days belong to history. It is especially gratifying to have the Conference take so positive a stand on the question of Latin in the grammar schools, for we are confident that the adoption of the first of the above resolutions will hasten the recognition of Latin as a grammar school subject in the schools of New York. On the teaching of English the Conference passed the following resolutions:

That the lack of harmony in regard to English teaching is due to two causes: first, to the fact that new aims have recently appeared to the teachers of English, and, second, to the fact that the colleges have made a great diversity of requirements.

That the best methods of teaching English are yet to be found.

That every recitation should be made to contribute to good English.

That much oral composition and topical recitation may profitably be called for.

That a large amount of poetry and literature adapted to the age of the pupils, should be studied in the grades.

That English should always be regarded as a means, not as an end.

That English should be considered of first importance in the high school, and it should not be dropped nor abridged for less important subjects.

That the present demands for English are not excessive.

That daily practice in writing English is desirable, but that the written work should be distributed among classes in other subjects.

That the study of nature is necessary for the highest literary appreciation.

That the discussion of the larger principles of literary criticism will greatly add to the pupil's interest and form the basis of much valuable composition work.

* * *

Houghton, Mifflin & Co. are promoting the cause of sound literary culture in our schools by bringing out inexpensive editions of classic translations from classic authors for class-room and school library use. Students' editions of Bryant's Homer's Iliad, Palmer's Homer's Odyssey, and Cranch's Virgil's Æneid, have already been issued, and others are promised. Though these volumes are printed in large type on excellent paper and are neatly bound in cloth, the price is only one dollar each. It has long been our contention that pupils in the grammar grades, as well as in the high school, should be given a chance to read as a part of their English work the whole of the Iliad or the Odyssey or the Æneid in translation. We have in mind a few teachers who succeed in giving their pupils a large amount of Greek and Latin literature without the language, which is infinitely better than the language without the literature. The teaching of Latin and Greek is confined so exclusively to the syntactical and philological side in our high schools that the literary side of these languages is lost sight of. Homer and Virgil are considered by pupils and teachers as simply material for drill in grammar. The literary beauties, the poetic spirit of these masterpieces are overshadowed by the system of grammatical microscopy that prevails. It cannot be too often brought to the attention of teachers that the aim of the study of Latin and Greek should be to reproduce the whole mind and surroundings of the men of the past, and this result can be achieved, it seems to us, without a constant appeal to linguistic subtleties. From the fact that the teaching of the ancient languages in secondary schools has not led in many cases to satisfactory results in the direction of a liberal education, it has seemed to us that pupils not preparing for college might receive a better preparation for the thorough and appreciative study of English literature by a careful study of English translations of the classics. While the intangible grace and elastic life of an original must be lost in any translation, there always remains the historic value and something perhaps of the poetic spirit. Properly taught, these translations would give to the student a far more adequate conception of ancient life and thought than that obtained from a study of a small portion of these originals as carried on in many schools. Mr. Moulton, whose University Extension work in England and America has been so fruitful in its results, advocates the use of translations. Even in the case of students in high schools who are taking courses in either ancient or modern languages, he would have a large amount of reading done by means of translations. Instead of confining the study of any one author to translating one production, he suggests that as many as possible of an author's writings be read in English translations. This position seems to us a sound one. If the classics are presented in translations as an essential part of the history of the human mind, they form the basis of a liberal education in no wise inferior to that founded on the study of the ancient languages according to the methods followed by so many classical teachers. We do not undervalue the disciplinary value of the thorough grammatical study of Latin and Greek classics. On the contrary we hold that there can be no thorough appreciation of the ancient classics in the original without sound grammatical knowledge. What we find fault with, is making the grammatical and philological study of these languages the end rather than the means to the end, thus overlooking the fact that the cultural side is after all the one that should chiefly concern us.

NEW BOOKS.

Professor Will S. Monroe, of the Department of Pedagogy and Psychology in the State Normal School, Westfield, Mass., has prepared for the International Education series a *Bibliography of Education*, containing the titles of thirty-two thousand books and pamphlets. For convenience these titles have been grouped into classes and these classes broken into sections. Pp. 210. $1.50. D. Appleton & Co.

* * *

The Treasury of American Sacred Song, selected and edited by W. Garrett Horder, of London, is a volume likely to be received with favor in this country. It is evident that the editor has given much time to his difficult task, and one finds in the more than three hundred pages of this collection the most comprehensive as well as the choicest anthology of the sacred verse of America that has yet been made. Thirty pages of biographical and explanatory notes add to the usefulness of the volume. Oxford University Press.

* * *

The latest volume in the Contemporary Science series is that on *Sleep*, by Marie de Manacéive, of St. Petersburg. In this work we have the most comprehensive discussion of the physiology, pathology, hygiene, and psychology of sleep to be found in the English language. The author seems to have compassed the entire literature of the subject, and from the great mass of material at her disposal she has presented in a lucid style the generally accepted theories regarding the phenomena of sleep. Every student of psychology will find this work well worth reading. Pp. 341. $1.25. Charles Scribner's Sons.

* * *

There may be some reason for the publication of a *New Manual of Method* by A. H. Garlick, but if there is, it is not apparent to us. This work belongs to a class of manuals for which there is happily no longer a demand among intelligent teachers, but which will have an interest to posterity along with numerous other pedagogical curiosities of the nineteenth century. While it must be conceded that the methods of teaching the various subjects presented in this volume are for the most part excellent, they are such as every well prepared teacher ought to devise for himself or such as are found in any good text-book. Pp. 351. $1.00. Longmans, Green & Co.

* * *

Though hardly equal in merit to his *Talks on Writing English*, Arlo Bates' new volume, *Talks on the Study of Literature*, will be found helpful to students and teachers of literature. Professor Bates has the art of putting his thoughts in a clear and attractive way, and whatever he says on the subject of the study of English is marked by common sense. For this reason teachers of literature will find this work exceedingly suggestive. Among some of the more important topics considered are, what literature is, the study of literature, why we study literature, false methods, methods of study, the value of the classics, new books and old, fiction and life, poetry, and poetry and life. Pp. 260. $1.50. Houghton, Mifflin & Co.

* * *

We note with pleasure that there seems to be a growing demand for elementary Greek and Latin lexicons for school use. G. H. Nall, of the Westminster school, England, has prepared for use of secondary schools *Macmillan's Elementary Latin-English Dictionary*, suited to the needs of students reading Cæsar, Sallust, Nepos, Livy, Eutropius, Cicero, Catullus, Virgil, Horace, Ovid and Phædrus. The definitions are full and exact, elementary derivations are given, and the type is exceptionally large and clear. The use of a lexicon like this, free from everything that would bewilder the youthful beginner, is to be preferred to the special vocabularies with which school editions of the classics are now supplied, and we believe that this excellent dictionary will commend itself to Latin teachers as a step in the right direction. Pp. 432. $1.00. The Macmillan Co.

* * *

Suggestions for Laboratory and Field Work in High School Geology and Questions for use with Tarr's *Elementary Geology*, by Ralph S. Tarr, is a timely manual that will doubtless be of much service to high school teachers of this subject, especially to those who have not had the opportunity of taking a laboratory or field course in a college or normal school. Many high school teachers realize the growing demand for the introduction of laboratory and field work to supplement and in part take the place of text-book work in the earth sciences (climatology, physiography, geology), but find it very hard to get helpful suggestions as to the best way in which to do this. To such teachers the present manual will be very welcome. For the guidance of teachers who wish to introduce laboratory work in Physiography and in Climatology two little pamphlets issued recently from Harvard University—*Outline of Requirements in Physiography* and *Outline of Requirements in Meteorology*—will be found very helpful and suggestive. The pamphlet by Professor Tarr can be had of the Macmillan Co. for 25 cents.

The Culture of Christian Manhood is the title of a volume comprising sermons preached on Sunday mornings in Battell Chapel, Yale University. Some of the ablest minds in the American pulpit are represented in this collection of sermons, and no one can read this volume without being impressed with the scholarship and the culture of the leading pulpits of America. Without an exception the sermons in this volume are plain-spoken, and show a freedom from everything that savors of cant and mere formality. Each speaker brought to his student-hearers messages of inspiration to better things in life and conduct. Some of the more suggestive sermons are: Personality, Amory H. Bradford, D. D.; The Evolution of a Thinker, George A. Gordon, D. D.; The Meaning of Manhood, Henry van Dyke, D. D.; and Immutability, President M. W. Stryker, Hamilton College. The volume is an artistic piece of bookmaking and contains portraits of the authors of the sermons. Pp. 310. $1.50. Fleming H. Revell Company.

* * *

The vitality of Browning's *The Ring and the Book* explains the increasing popularity of this artistic creation. When the poem first appeared, people were almost staggered at its immensity, its peculiarity of construction, and its originality. But as time has gone on its greatness has been fully recognized, and it has come to be taken as one of the literary masterpieces of the nineteenth century. The editors of *Poet-Lore*, Charlotte Porter and Helen A. Clarke, have just given to the public an annotated edition of the poem, for which they have written an introduction that admirably serves to get the reader into a sympathetic relationship with the poem. The editors hold that in spite of colloquialisms, archaisms, historical and classical allusions, the style of poem is singularly clear. It has been their aim to explain these occasional obscurities without burdening their annotations with too much erudition. This volume seems to us one of the most useful helps to the study of the poem that could be desired. The type is clear and easy to the eye, and the general appearance of the volume will satisfy the most exacting taste. Besides an excellent portrait of Browning, there are sixteen illustrations in the volume. Pp. 526. $2.00. T. Y. Crowell & Co.

* * *

For the past thirty years Hart's *Composition and Rhetoric* has had a wide-spread popularity as a text-book for school and college use. The author, Dr. John S. Hart, for a long time at the head of the State Normal School of New Jersey, was one of the most successful class room teachers we have had in this country, and all the text-books prepared by him possess the quality of awakening on the part of the student an enthusiasm for the subject. In spite of the change for the better in the methods of teaching English, his *Composition and Rhetoric* has retained its place in some of the best schools by virtue of its remarkable adaptation to the practical wants of students. The work has just been brought out in a new and revised edition in which important changes have been made by Professor James Morgan Hart, of Cornell University, son of the author, who has himself written an excellent text-book on the same subject. In the present edition the first part of the work, that on style is left in its original form. The second part, treating of invention, is wholly the work of the reviser, and contains among other excellent features the best treatment of paragraphing and composition-writing that we have seen in a school manual on this subject. In its present form this book will find favor with a new generation of English teachers. Pp. 341. $1.00. Eldredge & Bro., Philadelphia.

* * *

The firm of D. C. Heath & Co., have begun a good work in arranging for the publication of a series of educational classics in an unabridged form. Two volumes have already appeared—Comenius' *School of Infancy*, with notes by Will S. Monroe, and Roger Ascham's *The Scholemaster*, edited by Edward Arber. It is an encouraging sign of a demand for improved pedagogical instruction that teachers are beginning the study of the literature of the profession, especially the educational classics. No analysis of a work like the *Emile* the *Great Didactic*, or the *Scholemaster* can prove so serviceable to the student of pedagogy as the study of the work at first hand, and these editions to be brought out at a moderate cost will prove of great use in classes in the history of education where thorough work is attempted.

* * *

An important addition has been made to the Great Educators series by the publication of *Thomas and Matthew Arnold*, by Sir Joshua Fitch, who was associated with Matthew Arnold in the education department, and is in consequence exceptionally well fitted to speak of his views on education and to estimate his personal influence. In view of the abundant biographical and critical literature which has made the Arnolds—father and son—its subject, the author of this volume has undertaken to bring together so much of the teaching of both as was likely to prove of permanent value. He has at the same time touched upon the large share of influence they exerted in forming the educational opinion of England, and has explained and justified the high position which Thomas and Matthew Arnold occupy in the public education of Great Britain. Pp. 277. $1.00. Charles Scribner's Sons.

* * *

An important contribution of the year to the literature of pedagogy is *Vittorino da Feltre and Other Humanists*, by William Harrison Woodward. This work discusses with great learning and in an attractive style the theory and practice of education at the opening of the period of the Renaissance, a period which has received very inadequate treatment in our histories of pedagogy. The humanistic ideal of the first period of the Renaissance was wholly different from the pedantry of succeeding centuries, and all who are concerned with the status and methods of classical teaching will find in this volume that our classical education of to-day received its first and, in some respects, its noblest impress from the experiences and avowed ideals of this period. This work by Professor Woodward falls into three divisions. The first treats of the career of Vittorino da Feltre, the characteristic humanist schoolmaster of the early Renaissance; the second consists of four noteworthy treatises on education produced during this period, not now readily accessible to students, viz.: P. P. Pergerius, *De Ingeniis Moribus;* Lionardo Bruni d' Arezzo, *De Studiis et Literis;* Aeneas Sylvius, *De Laborum Educatione*, and Battista Guarino, *De Ordine Docendi et Studendi*, all being presented in English versions; the third part of the volume reviews at some length the educational aims and methods of the first century of Humanism. Not the least useful feature of the work is the full bibliography. Pp. 365. $1.75. The Macmillan Co.

* * *

Teaching as a Business is the title of a handsomely printed volume made up of four addresses by C. W. Bardeen, editor of the *School Bulletin*. These addresses are: The Teacher as He Should Be, (New York State Teachers' Association, 1892); Teaching as a Business for Men, (National Educational Association, 1885); The Teacher's Commercial Value, (New York State Teachers' Association, 1885); and Fitting Teachers to Places, (American Institute of Instruction, 1897). Mr. Bardeen can get more wit and wisdom into an educational address than any other writer in this country, and these addresses in this volume show him at his best. To young teachers especially we commend this volume, though the teacher of experience will enjoy the bright things and sound sense in which these four addresses abound. Pp. 186. Cloth, $1.00; manilla, 50 cents. C. W. Bardeen, Syracuse, N. Y.

* * *

Notwithstanding its modest size, there is no better text-book for students of philosophy than Professor Oswald Külpe's *Einleitung in die Philosophie*, published in 1895. The author shows a marvelous grasp of the subject along with the power to state with great conciseness and clearness the fundamental doctrines of a philosophical system. Teachers of philosophy in this country will rejoice that the work has just been translated by W. P. Pillsbury, instructor in psychology in Cornell university, and E. R. Titchener, professor of psychology in the same institution. The use of this manual in college classes would prove far more suggestive than many of the text-books now in the hands of American students. Professor Külpe's work presupposes no special knowledge of the subject on the student's part, and will be found suited to the capacity of the average junior class in an American college. Pp. 266. $1.60. The Macmillan Co.

* * *

Something entirely new in the line of school apparatus will be found in *Topical Studies in United States History*, by A. B. Blodgett, Superintendent of Schools, Syracuse, N. Y. The aim of the work is so to connect historical events as to show unity and continuity, to bring out clearly the relations of cause and effect, and to make the study interesting. The most important events are arranged chronologically and are given in large type, while an interesting series of notes in smaller type furnishes needed explanations. References to the best authorities are given under every important topic. Another feature which will commend itself to teachers everywhere is found in the excellent maps, which are very complete and show progressive development in such a manner as to enable the pupil to grasp the facts at a glance, something that it is impossible for him to do from the school histories in common use. The whole work shows very careful study from the standpoint of one thoroughly conversant with the needs of the secondary school. The statements are brief and concise and explanations are made especially strong where the majority of textbooks are weak. The Chart is accompanied by a teacher's manual, which outlines a method of teaching history that in the hands of an intelligent teacher cannot fail to show the relationship of events, and thus add interest and value to the subject. Thus the Chart furnishes a guide for the use of any book or any number of them at the same time, and will tend to improve very materially the methods of teaching United States History in grammar and high schools.

* * *

Professor Oscar Kuhns, of Wesleyan University, has prepared a new edition of Cary's translation of Dante's *The Divine Comedy*, and has included in the volume Dante Gabriel Rosetti's translation of *The New Life*. Cary's last revision of his translation was made in 1844, and the progress of investigation since that time has made desirable a new edition. Professor Kuhns divides his introduction into three parts. In the first, the poet's life is concisely yet fully given, together with a clear statement of the political events which led to Dante's being exiled from Florence. The second part summarizes and discusses the New Life, that striking picture of the poet's pure love for Beatrice, while the third part deals with the Divine Comedy, presenting briefly Dante's conception of the universe, and then sketching rapidly the plan of the work itself.

Professor Kuhns follows Cary's translation closely, making changes in the text only where later light makes change needful, but cutting out or abridging Cary's notes, and citing here and there illustrative passages from other poets whom Cary either did not know or did not care to quote. Following the example of Scartazzini and other commentators, the editor gives frequent and helpful summaries of single passages, and elucidates others whose meaning is obscure. Professor Kuhns has done a great service to the student as well as to the general reader in thus providing an edition characterized by good sense, scholarly exactness and enthusiastic admiration of the great poet,

The book is well printed and handsomely bound, and the fine reproductions of photographs which illustrate it contribute to the value of the text while satisfying the eye. Pp. 540. $2.00. The Macmillan Co.

* * *

The Oxford University *Press* has published two manuals which will be of great value to the original student of Greek and of Roman history. The one of these is Rushford's *Latin Historical Inscriptions*, which appeared several years ago; the other is G. F. Hill's *Sources for Greek History. B. C. 478-431*. Mr. Hill is connected with the British Museum; in this recent volume of his he has collected and arranged all possible original sources for this much vexed and uncertain period of ancient history. The object of this book is primarily education. Its method is of as much value as its matter; it is a warning to the student of history not to neglect the value of original authorities, and not to rely unduly on the reflections of modern writers. As a rule a student's time is short, yet it is by the careful balancing of these authorities that the mind is best trained to form an accurate estimate amid numerous probabilities. It is in this way that the book, meant first of all for students and teachers of ancient history, has its value for all teachers of history, and is adapted to be an inspiration to fresh and fruitful work on their part. For the more advanced scholar who may be able to explore his sources for himself the book has also some use in giving him a certain number of them at hand for ready reference. Mr. Hill has also done very little "editing" of his authorities; he is the compiler and arranger, who leaves the reader free to choose his own interpretation. The collection ceases where Thycydides takes up his direct narrative. The printing is not in *fac simile*, but is a reproduction of the system adopted by Dittenberger in his Sylloge, which is confessedly the best substitute. An excellent ***index auctorum*** and ***index nominum*** make the book all that could be desired for ready and easy reference. The book should find its way into the libraries of serious students of history, especially those who are acquainted with the Greek. It numbers some four hundred pages.

* * *

Nothing on child-study has appeared since Sully's Studies in Childhood two years ago that can be so unreservedly commended as Dr. Francis Warner's *The Study of Children*, just published by The Macmillan Co. The author is an eminent London physician, who has carried on for the past twenty years careful investigations into the conditions of childhood having examined one hundred thousand children as to their mental and physical status. This volume presents the results and methods of these extensive researches. Unlike Sully, Dr. Warner has made his observations from the biological rather than the psychological point of view. He has endeavored to apply in the scientific study of children in their modes of brain-action and bodily conditions the same methods and the same terms in describing phenomena that are used in the physical sciences. The result is a volume singularly clear and exact in its expression and definite in its generalization, the first really scientific monograph on child-study that we have in any language.

The author takes as his starting point the proposition that the great difference in the health and strength and mental faculty makes imperative the adaptation of educational methods to the special needs of individual pupils. In the masses of pupils in our public schools there are many classes and varieties of children whose needs must be studied; hence the intelligent observation of children is absolutely necessary in the work of teaching as affording a basis for the methods of education to be employed in dealing with the different types of childhood. To make a good observer of children calls for a certain amount of training, and much of the data gathered in many of our schoolrooms under the name of child-study is worthless because of a lack of training in observation on the teacher's part. Dr.

Warner has, therefore, rendered a needed service in bringing before teachers and parents the points, in detail, which may be seen and described in the child. For the purposes of observation the teacher needs to know what to look for, and what may be seen, normal or subnormal, and it seems to us that this volume indicates the points which will enable the observer to recognize those physical signs that express the child's brain-state. Signs of brain disorderliness are much associated with the causes of mental dullness, and from the suggestions which Dr. Warner's experience has enabled him to offer, teachers can effect marked improvement in cases of abnormal children by employing proper methods.

Following the introduction, the author treats the subject under the following heads: the body of the child, its construction and growth; the brain, its development and evolution; observing the child, what to look at and what to look for; principles of the methods of observing and describing children; points for observation, indicating faults in body or brain-action, or a status below the normal; examination of mental ability and the faults that may be observed; some general conditions in children described; types of childhood, and groups of children below the normal; adolescence; the care of children and their training; hygiene and health management during school life; and some propositions concerning childhood. The subjects considered by the author are those on which parents and teachers are seeking definite and authoritative knowledge, and we believe that the publication of this volume will exert a profound and far-reaching influence for good in aiding teachers and parents in doing the best that can be done with children in various phases of life. $1.25.

* * *

The New Psychology, by E. W. Scripture, director of the Yale psychological labratory, is the title of a recent volume in the Contemporary Science series. In this work Dr. Scripture has sought to show just what the new psychology is, and to make clear the fundamental ideas of the science. There are still those in the ranks of psychologists who are inclined to look askance at the attempts of recent years to employ in the science of mental life the methods hitherto peculiar to the physical sciences, but fortunately their number is gradually growing smaller. Whether we are prepared to accept all that goes under the name of the new psychology or not, it evinces a lack of the true scientific spirit to disregard the methods and results of modern psychological research in this country as well as in Germany. It must be conceded that not a few of the generalizations of the new psychology and child-study are based on insufficient data, although each year brings us nearer to the truth.

The first part of the volume before us ought to be read by every student who would know something of the methods employed in the development of any science. In the chapter on observation, Dr. Scripture demonstrates the fact that unaided observation can not lead to accurate and trustworthy knowledge. Here we find the point of issue between the old method and the new in psychology : simple observation of our minds is inadequate to the establishment of facts concerning mind. As a means of avoiding one-sided views of mental phenomena, the modern psychologist resorts to statistics, experiment, or measurement, or to a combination of the three methods. In succeeding chapters on the methods of psychological experiments, the author clearly defines the significance of statistics, measurements and experimenting, and shows in detail how the results which the new psychology claims to have established are reached.

Following his exposition of the methods of the new psychology, the author discusses in the second part the subject of Time, emphasizing the methods of careful experiment and measurements in psychology rather than results, while in the chapters on Energy he lays the most stress on the results obtained in the laboratory. In the part given to Space a development of principles rather than particulars either of methods or of facts is the object. The concluding chapters are taken up with a consideration of the sources of the new science together with some reference to the work of Fechner, Helmholtz, and Wundt. Although the new psychology had its origin in Germany, it has had its most rapid development in the United States, where there are in existence more than twenty laboratories for psychological investigation. With but few exceptions every American college or university of note has an equipment of some kind for carrying on experimental work in the science. The volume deserves a careful reading by every student of psychology, not merely for the facts regarding mental phenomena which it offers, but also for the research methods suggested. Pp. 524. $1.25. Charles Scribner's Sons.

* * *

D. C. Heath & Company have in press for immediate issue in Heath's Modern Language Series *Voltaire's Prose*, which consists of four hundred and fourteen pages of representative selections from the writings of Voltaire, provided with suitable introduction and notes. This book is edited by Professor Cohn and Dr. Woodward of the Romance department of Columbia University. The aim of the editors has been to select extracts that will enable readers to understand what Voltaire achieved. Hitherto it has been impossible to become acquainted with the varied genius displayed in the prose of that author, owing to the expense of obtaining sufficient material for the purpose. This edition, in a comparatively limited space, will be found to be thoroughly representative and an adequate introduction to Voltaire's thought and style.

* * *

Under the title of *The Contribution of the Oswego Normal School to Educational Progress in America* Mr. A. P. Hollis has made a notable contribution to the history of American pedagogy, and has also paid a lasting tribute to the life of Dr. E. A. Sheldon, a man whom to know was an education. The appearance of this timely volume will serve in a large sense as a memorial of the life-work of Dr. Sheldon, and will be welcomed not only by all personally interested in the Oswego Normal school, but also by every student of the history of education. The book is in press and will appear shortly. The publishers are Messrs. D. C. Heath & Co.

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APRIL, 1898

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BAD ENGLISH AGAIN.

Our readers have not forgotten the commotion made a few years ago by the publication of the report of the visiting committee on composition and rhetoric to the overseers of Harvard College. The revelations of that now famous report aroused at once an increased interest in the teaching of English in secondary schools, and there is no question that there has been in consequence a noticeable improvement in the methods of teaching rhetoric and composition. With a view to find out what advance had been made since the publication of the first report, the same committee three years ago issued a second report in which were published sixteen extracts from translations in advanced Latin made at the college entrance examinations in 1894. These extracts, taken at random from a large number of papers, disclosed a lamentable degree of ignorance of the laws of English construction on the part of intending college students. A study of the specimen papers given in the report showed, however, that the poor English abounding in the translations was due to ignorance of both Latin and English in about the same proportions. For the third time the same committee has presented a report on the teaching of composition and rhetoric, which is not less suggestive than its predecessors. In order to obtain data for future comparisons the committee, after consultation with the instructors of the English department, gave out to all students in the several English courses the following subject for a written composition:—"Describe the training you received, or the experience you may have had, in writing English before entering college, giving the names of the schools in which, or the instructors from whom, you received it; and then speaking in the light of your subsequent work and experience in college, point out wherein your preparatory training now seems to you to have been good and sufficient, and wherein it seems to have been defective and to admit of improvement." Although the preparation of the paper was optional, nearly twelve hundred students complied with the wishes of the committee. One hundred and fifty-eight of these papers are published verbatim in the report, and it is not too much to say that we have in them a body of evidence bearing on the present condition of English teaching in secondary schools of undoubted value.

SOME CONCLUSIONS AND INFERENCES.

It would be interesting to bring before our readers all the conclusions and inferences to be drawn from the papers in this report, but that is impossible. It is to be noted, in the first place, that the committee finds much that is unmistakably encouraging regarding the teaching of English in the secondary schools. The frank admission is made by the committee, however, that about twenty-five per cent. of the students now admitted to Harvard are unable to write English with the ease and freedom absolutely necessary to enable them to proceed advantageously in any college course. It was found by the committee that the papers submitted by these poorer students are so ill-written, inaccurately spelled, ungrammatically expressed, and generally unworkmanlike that their writers are clearly out of place in college, and belong to the grammar school. The crudeness of thought of these papers is not less noticeable than the poorness of execution, and it is surprising that so great a degree of immaturity should exist in a body of young men supposedly fitted to take up the work of Harvard College. Of the remaining seventy-five per cent. of the papers, it can be said that they are for the most part satisfactory, though some fall below that standard of proficiency which ought to be expected of students who have been in college several years.

DEFECTS IN METHODS OF INSTRUCTION. In commenting on the papers in the report referred to above, the committee calls attention to what is a serious defect in the methods of instruction in written English in both school and college, namely, that English has been taught, indeed one is justified in saying that it is yet taught in most schools and colleges, almost wholly as an end, not incidentally as a means. It has been our contention that the reason why the results of the teaching of English expression have been so meager is found in the fact that the English work is not correlated with the other work of the school or college. Facility in English expression, both oral and written, will be increased in the degree it is made, not the end, but the incident of his school and college work. The glaring errors found in the papers of this report show the necessity of more practice, more daily drill, but it seems out of the question to find time for this without sacrificing other subjects, not less necessary than English. It seems to us however that the recommendation made by the Harvard committee offers the complete solution—"English should be taught in the preparatory schools not, as now, altogether objectively, but incidentally, and in connection with other studies,—mathematics, geography, history, and especially foreign languages and the classics." In many schools and colleges even, English is taught as a thing by itself in the hours assigned to it, and the other languages are taught as if English did not exist.

REPORTS OF VISITING COMMITTEES. Among the curiosities of pedagogical literature are the reports of the visiting committees of some of the denominational institutions. These reports are wonderfully alike, especially in their laudatory tone, no matter what the grade of the institution which they are intended to commend to the public. It cannot be denied that some of the strictly denominational colleges and universities of this country are in no way inferior in real merit to those that are strictly independent. But it seems to us little less than a "roaring farce" to find a visiting committee gravely informing the public that an institution with no endowment, with all sorts of side-shows to swell the attendance, and with the great majority of its students in the preparatory department, is offering to young people the same educational advantages to be found in institutions having large endowments. Institutions of this character, with inadequate library facilities and scarcely any equipment for science-work, are lauded by these visiting committees with as much unconcern as if there were no lack of funds or educational advantages. Such reports do no little harm by leading people to believe that institutions for higher education may be made self-sustaining, and that a permanent fund for carrying on work in these institutions is unnecessary. These reports are, it must be admitted, all written by persons who are themselves not only without education in the proper sense, but who have not the remotest idea of what an educational institution ought to be, least of all a modern university. These reports, again, do harm to the cause of religion by causing it to be associated with dishonesty or ignorance, though it seems more charitable to lay the burden of the blame on ignorance. The writers are either ill-informed or are willing to promulgate a falsehood for the sake of the cause of Christian education. We have read these reports on certain colleges for a good many years, and they are almost precisely alike; yet during this time these colleges have increased in efficiency in a marked degree. We are surprised that those who have most at stake do not stop these libels on higher education.

SUGGESTIVE STATISTICS.

A pamphlet entitled the Religious Census of the State Universities and of the Presbyterian Colleges for the year 1896–97 contains information to which we should like to direct the attention of everybody connected with the management, directly or indirectly, of higher education in denominational institutions. While this journal has maintained that there is a place for the denominational college or university in this country, we have on the other hand never sympathized with the charge that our state universities are antagonistic to the cause of enlightened religion. The present condition of things in France shows the dangers of the complete secularizing of the system of instruction. It seems to us an incontrovertible position that Christianity is the only sure basis of public morality, and for this reason the denominational college is one of the most effective agencies for securing a fuller recognition of the elevating influence of Christianity as the surest basis of national well-being. From a study of the data contained in this pamphlet, which has been compiled by a professor in the University of Michigan, it appears that the religious denominations do not regard the state universities as irreligious in their tendency. The statistics show that a majority of all the students in the state universities are members of churches. In five state universities, for instance, with a total enrollment of 5,173, less than twelve per cent. were without definite church connections or preferences. In the state universities of Indiana, Kansas, Michigan, Washington, and West Virginia, having a total enrollment of 5,173, the Methodist Episcopal Church alone had 1,098 members and adherents, while in sixteen state universities at least one student in every six belongs by membership or affiliation to the Methodist Episcopal Church. The Ohio State University has, notwithstanding the proximity of colleges under the control of the Methodist Episcopal Church, 261 students belonging to that denomination out of an enrollment of 837. In seventeen state universities there were 2,434 Presbyterian students, while in the thirty-seven Presbyterian colleges there were only 2,388; in other words, there were more Presbyterian students in seventeen state universities than in all the thirty-seven Presbyterian colleges taken together. At the University of Michigan there were more than three-fourths as many Presbyterian students as at Princeton University, and exactly fifteen times as many as the Presbyterian college in Michigan. If the present tendencies remain unchecked, it seems more than probable that within a quarter of a century the majority of laymen in the Presbyterian church who have had the advantages of college education, will be men who have been educated in other than Presbyterian colleges. The same condition of affairs will be true of other religious denominations; that is to say, the men who will have the direction of the material interests and who will be exerting an influence in shaping the policy of the church will be men who have been educated in state universities. These are facts which the advocates of denominational education would do well to ponder.

WHAT DENOMINATIONAL COLLEGES MUST DO.

In the light of these statistics one thing is clear—the friends of denominational colleges will promote their cause by giving more time and attention to the ways and means of providing better educational advantages in these institutions. In too many instances the critics of the state institutions have utterly ignored the demands which the more enlightened part of society makes of our higher institutions of learning. The conditions of modern life make necessary a high degree of intellectual equipment, and just as soon as the denominational colleges and universities recognize the fact that it is the object of education to fit the individual for the duties of the civilization to which he happens to belong, more strenuous efforts will be made to increase endowments, to provide a higher grade of teaching-ability, to secure increased facilities for scientific research, and to enlarge libraries. The intelligent church member who keeps himself reasonably well informed upon the trend of modern education will not send his son or daughter to an institution which lacks ample facilities for giving the intellectual training demanded by the conditions of modern life. It seems to us, therefore, that the problem which the friends of denominational colleges have to solve is a simple one—make these institutions in all respects equal in equipment to the non-sectarian institutions, and there will then be no question as to the attitude of the public toward the denominational college or university.

There is no use in shutting our eyes to that which cannot be denied. The educated part of the world has got beyond the point at which an inferior intellectual culture will be accepted without question even though denominational loyalty may be appealed to in seeking its acceptance.

NATURE READERS—A PROTEST.

The introduction of nature study into the elementary grades has led to the publication of numerous reading-books having in view the cultivation in the child of a genuine love of nature through a closer observation of the natural life surrounding him. For the most part these first reading-books are well written, but nevertheless they should have no place in our schoolrooms. While the purpose these books are designed to serve is a laudable one, it is our conviction that their use, especially in the first and second years, will be attended by just the opposite result from that sought. It has always been the weakness of the school that there is a tendency to substitute the study of books for the study of things themselves, and there is great danger that these nature study readers in the hands of the average primary teacher will lead the child to go to the book to find out the secrets of nature rather than to nature herself. There is only one way in which the child can be brought to a genuine appreciation of nature, and that is by coming into direct contact with the world of nature during the most impressionable period of life. Much can be done by the teacher to direct the simple, spontaneous pleasure which children in a natural state feel in the free, open air, and thus lead them to an understanding of the common truths of science, but this result cannot be secured by teaching pupils to read statements about nature in the first years of their school life. The intelligent and emotional response which is awakened in children in the presence of natural objects will, we believe, be lost if the use of these books is persisted in. Nature will lose its hold on the child's emotions and will inevitably come to be looked upon as a lifeless, mechanical thing. To the teacher these books will bring suggestions that will help them to adapt the nature study work to the needs of their pupils, but against their use as reading-books for children we enter our earnest protest.

BETTER COLLEGE TEACHING.

It is encouraging to note the increased stress that is being laid upon teaching-ability as the standard by which to measure the fitness of the college or university instructor. While no less value is placed upon scholarly attainments in the college professor than in the past, there is a growing conviction that good teaching is as necessary in the college as in the secondary school. College presidents are beginning to insist that scholarship must be found in combination with the power to impart, and to inspire earnestness and enthusiasm for learning in others. It has never seemed clear to us why teaching that violates every known principle of pedagogy should be tolerated in a college any more than in a high school, and yet no one with a wide acquaintance with our higher institutions will deny that a good deal of the teaching in these institutions would compare unfavorably both in spirit and method with that done in the leading secondary schools. President Canfield in his annual report, just issued, uses this language, and he generally knows what he is talking about:

> The greater number of those engaged in instruction in American colleges and universities have little if any knowledge of the importance of pedagogy or its discoveries. It is unquestionably true that the average college or university faculty takes fewer educational journals, reads less in pedagogy, and has more imperfect knowledge of the relative educational values of different subjects and courses than almost any other body of teachers in the land . . . It is quite safe to accept at nearly its face value the recent statement of the president of one of the strongest American universities that it would be quite unusual to find in any one faculty more than three men who understand their work from the point of its psychological and pedagogical relations to the student, or who had ever given this subject much thought.

PRELIMINARY REPORT OF THE COMMITTEE OF NINE OF THE NEW YORK STATE SCIENCE TEACHERS' ASSOCIATION.

At the last annual meeting of this Association it was voted that a committee of nine should be appointed to investigate the following subjects: (1) The recognition of science as a requirement for entrance to college; (2) Science courses in the secondary schools; (3) Nature study in the elementary schools. In June, 1897, the following persons were appointed by the president of the association:

Leroy C. Cooley,	Vassar College.
Albert L. Arey,	Rochester Free Academy.
William Hallock,	Columbia University.
George F. Atkinson,	Cornell University.
Charles B. Scott,	Oswego Normal School.
Anna B. Comstock,	Ithaca.
Ralph S. Tarr,	Cornell University.
Richard E. Dodge,	Teachers College, New York.
John D. Wilson,	Putnam School, Syracuse.

A meeting of the committee during the summer was impracticable, but steps were immediately taken by correspondence to begin the necessary investigations. It was thought best to secure as much information as possible in regard to the actual practices in primary and secondary schools and to collate the opinions of educators on the uses and methods of science study, and the wisdom of requiring it in preparation for college. For these purposes three sets of questions were sent out to about 200 superintendents, principals, teachers, and other persons prominent in educational work. The inquiries extended to all the cities and many of the large towns of the State of New York, and to a smaller number in other states. Replies to these circulars are still coming in and the proposed investigation is but just begun. Some progress has been made. But the half year since the appointment of the committee has been wholly inadequate for a thorough study of the complex problems involved in the subjects assigned to it. Accordingly it was decided to make a preliminary report at this time, covering a few points on which the committee would invite discussion with a view to an immediate effort to improve the science teaching in our schools, and ask the Association to extend the time for the investigation.

The first subject which we ask the Association to consider now is

THE STUDY OF NATURE IN THE ELEMENTARY SCHOOLS.

That education for its own sake requires the early introduction and continuous use of nature study in the grades below the high school, was shown by the report of the Natural History Conference of the Committee of Ten. Since that report was made, current opinions have been converging until they seem to have reached an almost universal agreement. This fact is illustrated by the replies to our circulars.

With very few exceptions they agree, that nature study is an indispensable element in the education of children.

A large majority agree, that while there are serious difficulties in the way, yet the successful use of nature study in the primary schools is practicable.

By a smaller number it is claimed, as the result of experience, that the addition of nature study to the exercises in the grades hastens, rather than hinders, the progress of pupils in other subjects.

We invite attention to each of these three important points:

1. There are several reasons why nature study is indispensable in the education of children. In the first place, it is the only study which permits the child-mind to get knowledge at first hand. The study of science by observational methods fixes the mental habit of helping one's self to facts, while that of other subjects inculcates the habit of depending on what

other minds have discovered or thought and of contentedly accepting authority as sufficient evidence of the truth of statements.

Elementary science, or nature study, is indispensable in primary education for another reason. It is the only subject that can keep the child in sympathy with nature. Experience shows that the exclusive study of other subjects gradually quenches the enthusiasm for nature which prevails in childhood, and atrophies by disuse the power to detect the beauties of nature or to really appreciate them when they are forced upon the vision.

Another reason—the last which we will mention now—for regarding nature study as indispensable in the schools is that from no other source can the pupil get any real knowledge of the exacting physical conditions in which he is to live and work.

But if nature study is to yield its best educational values it must have the same opportunities in school that are accorded to other educational subjects. It must be continuous and progressive. The study of subjects relating to nature should begin when school life begins, and continue alongside of the studies in the elements of other branches through all the grades below the high school.

It must be confessed that nature study has often failed to secure ideal results. But it has achieved a positive, albeit an incomplete, success, and its partial failure can be traced to untoward superficial conditions. It has not been granted the opportunities without which English or any other subject taught to children would as surely fail to produce its ideal results. It has not been granted a sufficient time-allotment nor has it been prolonged or thoroughly systematized.

2. Many difficulties in the way of a continuous and systematic line of nature study have been pointed out. Some of these are phantoms. But others are so real that the combined wisdom of those who are competent to deal with the practical problems in education will be needed to remove them.

The first of these real obstacles is the lack of qualified teachers. What is the first requisite of success in elementary science teaching? An educated teacher. None but trained teachers can develop the full educational power of nature study, and yet very few of our excellent grade teachers have had any special preparation for this work. This is, without doubt, the greatest obstacle in the way of nature study, and that which we should at once set ourselves most courageously to remove. Fortunately there is an inborn sympathy with nature in the child-mind and the child-heart, so great that even indifferent teaching will not be fruitless. This fact has been proved by experience and it warrants the introduction of nature study even when the conditions are unfavorable.

Consider the case of an isolated union school in a small town. Is there not one among its teachers who has a fondness for the fields and some desire to keep in touch with nature? Relax a little the rigorous demands of the regular details of school upon her: give her a period or two per week; encourage her to make the best use she can of hints to be found in educational journals and she will not fail to inspire her pupils with something like her own desires, so that she and they, by the study of objects, will acquire a deeper sympathy with nature and grow into useful habits of observation. The harvest from this small seeding cannot be large at first, but the fruits will gradually become more abundant and of better quality year by year.

The conditions are much more favorable where good science teaching exists in the high school. Much may be accomplished in behalf of nature study if high school science teachers will take the proper attitude toward elementary work in the grades below. They should endeavor, by sympathetic aid, to interest the grade teachers in this work, which is likely to be irksome because it is not understood. They should extend help in planning the courses, and encouragement in all efforts to carry them through. The high school teacher who does this is getting more than he gives. He is really laying a better foundation on which to build his high school courses, and will, moreover, be likely to find his own work inspired by a keener appreciation of true scientific purposes and methods. We ought to expect that science teachers in the high schools will become energetic and efficient in removing those difficulties, in the way of nature study, which arise from the lack of knowledge and experience on the part of grade teachers. But, we say again, let the work begin even where we know that ideal results cannot be obtained at once.

The conditions are most favorable in the larger towns. In these, there is at least one way in which good teaching can be secured at once. It can be done by the employment of one thoroughly well trained teacher who shall conduct the nature study in all the schools.

This plan would have several advantages. In the first place it would be economical, since only one additional teacher would be needed, and a single salary is likely to be a small price to pay for the educational results of her work.

In the second place this plan would promise immediate success because the best known methods of observational work would be used at the outset.

In the third place it would be the simplest way to introduce the work, because the grade teachers would not be disturbed by the addition of a difficult and untried duty, and the schedule of the school would need little change other than the interpolation of two or three periods a week for the periodical teacher.

In the fourth place this plan would provide for the education of grade teachers in the theory and practice of nature teaching so that it would itself be but a temporary expedient if its permanence should not be warranted by experience.

Moreover we need not hesitate to adopt it, at least temporarily, since the plan has been found to work well in some other subjects, notably, drawing and music, and since in England it has been long in operation with gratifying results.

Next to the lack of qualified teachers, the most important hindrance to the introduction of a systematic line of nature study in the schools, has been thought to be the lack of time, or the over-crowding of subjects, in the primary courses. But the reality of this obstacle may be doubted.

3. More than 80 per cent. of those who have answered our circulars have expressed a positive opinion that nature study should be an important part of primary educational work. In more than 60 per cent. of the schools heard from, some provision is actually made for this work in every grade below the high school. The description of actual programs is, in many cases, accompanied by very instructive testimony in regard to the outcome of the practice, tending to show that this difficulty is largely if not wholly unreal. This testimony concerns the effects of nature study on the work in other subjects, as well as its own educational value, and seems to show that, in the end, attainments in other subjects are as satisfactory as before nature study was introduced. It is even affirmed, chiefly by those whose courses are most systematic, that nature study is a positive help and not a hindrance to other branches. It facilitates the study of English by filling the mind of the pupil with vivid ideas in regard to real things about which he is afterward able to talk intelligently and to write without reluctance. It gives an attractive coloring to geography by acquainting the pupil with a few of the contents of land and water, with some of the products of different climates and with some of the agencies which have produced the configuration of the earth. It gives a clear idea of the increase and diminution of quantities, which is the underlying conception in all mathematics. And when it permits the pupil to see something among articles of familiar use which illustrates the past or present products of art and industry in different quarters of the globe, and to know even a very little about the life-work of different peoples, it solicits the young mind toward the study of their histories and languages. An awakened intellect, an aroused interest, and a directed desire for knowledge constitute full compensation to other branches for the small concession of time which nature study asks.

It would seem, therefore, that two points have been established by actual experience, viz.:

1. Even in its imperfect state elementary science in primary schools yields valuable results not to be obtained from any other source.

2. Its addition to the school program need not delay the educational processes, nor diminish the sum total of knowledge acquired, in the old-time essential subjects taught in the schools. Hence there is a positive gain in educational values by the use of nature study in spite of its present imperfect methods. But while it is wise to make the best of it as it is, we should, at once, set ourselves resolutely to improve it. To this end we ought speedily to do four things:

To define the object of nature study.

To point out right methods of teaching.

To furnish an appropriate selection of subjects.

To arrange a logical suggestive series of progressive exercises.

1. The specific object of nature study, we think, should be to train children to see, to think, to talk, to write, or in more general terms; first to get knowledge by the thoughtful observation of real things, and then to express it naturally and correctly.

But besides these specific objects there are others of a more general character and of higher order; to cultivate sympathy with nature and appreciation of her beauties, skill in the use of the senses, and judgment in the translation of the messages they deliver, and finally, above all, to secure a correct attitude of the child-mind toward knowledge in general.

2. The purpose of nature study determines the methods of teaching it. It suggests the following as the underlying principle of all right methods: Objects and events should be the only sources of information open to the pupil and nothing but his own organs of sense should intervene betwixt his mind and them.

According to this principle all access to the thoughts and expressions of others should be cut off, until the powers of the child to get facts for himself and to express them have been exhausted. Even the teacher should withstand the strong temptation to reveal facts. The function of the teacher is not to tell the pupil what has been or may be seen, but simply to teach him where and how to look in order that objects and events shall make, to him, their own revelations. Books are out of place in this work, and the usual forms of drill and recitations are fruitless.

3. The object of nature study and the methods of teaching it determine the selection of subjects to be used. There is an abundance of appropriate materials in every locality. Stones, plants, insects, birds and beasts, have delightful truths in store for the child who is judiciously directed in the search for them. Nature study should, in the earlier grades, include the elements of all our common sciences in order that the child-mind may come into direct contact with all phases of its environment as speedily as possible. Nevertheless we would have the sciences which deal with life prevail, and the aim should be to study life-processes, functions, and adaptations. Forms may be studied as the results of functions, but definitions, groupings, and analyses, which have so long monopolized elementary teaching, should command little or no attention.

But the scope of nature study should be gradually narrowed as it advances until by easy gradations it becomes in the upper grades the study of a single subject such as geography, botany or zoölogy. There should be no break or interruption to a logical sequence and progression in observational exercises from the earliest to the latest grades. Neither geography, botany or zoölogy should be taught as a science even in the upper grades. The work should still be nature study, but so specialized that it becomes a natural introduction to the formal study of real science required in the high school by the fundamental branches of the biological and physical sciences.

4. Finally, when the objects of nature study are clearly

conceived, and appropriate methods and subjects selected, a logical system of suggestive exercises may be arranged to serve as a teacher's guide.

The solution of several problems would be involved in this guide, such as those relating to the following subjects: The time allotment, which whatever it be should be as definite and inviolable as that of any other subject; the maintenance of the principle of continuity, which is more important than time allotment, since little training of any kind can accrue from desultory exercises; and a proper co-ordination of nature study with other subjects, making it an integral element in all our primary education.

A widespread interest in nature study in this state and elsewhere has inspired many efforts to make it practicable. But individual attacks upon the imperfections of elementary science teaching will improve the work too slowly. We believe that the time has come when an organized effort would speedily bring success. The committee has not had time to do the work which it has outlined, but we believe that all genuine progress must be made along this way, and urge this Association to proceed at once to gather up the best results of all previous experience and weave them into a definite and practicable scheme which can be handed down for the improvement of nature study in the schools.

The second subject which the committee asks the Association to consider now is

LABORATORY WORK IN SECONDARY SCHOOLS.

Three facts are exhibited by the answers to our circulars in regard to science teaching in the secondary schools.

In the first place it presupposes no previous study of nature of any kind. Even in those graded systems where the elementary work seems to be well developed there is rarely any recognition of it as a preparation for the high school course. Surely this reveals a great lack of economy in the use of educational forces. Not the least among the agencies by which secondary science teaching will be improved is a properly graded course of nature study, which we hope for, in the elementary schools. A long step forward will have been taken when we reach the point where the first formal and thorough work in the high school can be based upon the last systematic observational work in the grade below.

In the second place the prevailing opinion is, as it should be, that the real purpose of all science study in secondary schools is to train the pupil into right and permanent habits of thought and action. The right question is not how much can a pupil be made to know but what can he be taught to do with what he knows.

From this opinion there is, however, some dissent. There are those who still hold that while the sciences are valuable sources of information, all real intellectual discipline must be obtained, as of yore, by the study of mathematics, languages, and literatures. The resistless tide of current theory and practice is against this view. It is true that knowledge acquired by the study of science transcends all other knowledge in practical utility, and this fact should not condemn science as an agent for intellectual discipline: it ought rather to predispose all educators to use it. But it is too late to defend the teaching of any subject whatever during the precious time in the preparatory schools primarily on the ground of its utility in the so-called practical affairs of life. Science has a higher claim than this to a place in the schools. The truths which it reveals lie outside all other departments of knowledge and it reveals them through characteristic methods of research. Therefore it is needed to extend the mental vision and to inculcate habits of thought which are scarcely involved in other studies. On such grounds as this science is establishing a rightful place among the educational subjects in secondary schools.

The third fact revealed by the answers to our circulars is this: Text-book methods of teaching the sciences prevail over laboratory methods in the great majority of schools, while laboratory methods are universally advocated by science teachers.

It is true that attempts at laboratory work in one or two subjects are reported by the schools of the State of New York almost without exception, but the complaint is made that laboratory study must be limited, desultory, and subordinate to the study of books with class-room exhibitions. Now this discrepancy between practice and theory denotes the existence of conditions external to the subjects, which bar the progress of good science teaching in the schools. To discover and correct these conditions is the first step toward the improvement of science courses in secondary schools.

One of these hindrances is to be found in the failure of those who manage the schools to recognize the great labor involved in the conduct of good laboratory work. Laboratory teaching requires more work than good teaching in any other subject demands. What may be called the literary work of the teacher is no less in science than in mathematics or Latin. But when the science teacher has made all the preparation to meet his class that other teachers need to make, it still remains for him to collect materials, equip tables, adjust instruments and supervise individual experimentation. School programs make little allowance for the laborious hours required for these purposes, and the science teacher, however keen his appreciation of the necessity of the work, soon finds himself taxed beyond physical endurance.

Another hindrance to the systematic practice of good laboratory methods is the fact that the results of laboratory study cannot be tested by the current methods of examination.

The examination paper, as usually set, calls for the reproduction of a wide range of knowledge formulated in books. But the chief products of genuine science teaching consist in the habit of thoughtful observation, and the ability to get knowledge by direct contact with things. The student who uses books properly in combination with laboratory work has no large mental cabinet stocked with specimens of ready made definitions, formulated laws and crystallized principles representing all provinces of nature, and is unable to make a fine exhibition on examination day. This fact bars the progress of laboratory study in our schools. The reputation of the teacher and the standing and financial support of the school are affected by the results of examinations; what teacher or school can be wholly indifferent to the powerful influences of examination. Hence laboratory teaching, if not wholly excluded, must be desultory and comparatively fruitless. If the best teaching requires the joint use of both text-books and laboratories, it follows that all examinations should test for the resultant educational values of the combination. But they do not.

We are thus confronted with a condition in which the current examinations which are to test the results of science teaching are inimical to the best methods of using science for educational purposes. Is it not an educational necessity that this condition be removed? Some changes in the area of the subjects and the selection of topics in the courses laid down for the schools, and also in the character of examination papers, are needed in the interests of laboratory study. They could be wisely made by the joint action of those who map the courses and set the examinations, and those to whom the defects of our present science courses have been revealed by the actual tests of practical experience in science teaching.

But laboratory work is not all there is in secondary science study. When science is taught as an educational subject in the high school, to reduce it to laboratory courses pure and simple is a mistake second in magnitude only to that of confining it to a text-book. There are three requisites of good teaching in any science, viz.: A teacher, a text-book, and a laboratory. Oral instruction, library work, and individual observation, or experimentation, should be conjoined. In each science the due proportions of these, and especially the character and amount of laboratory work, must be determined by the nature of the subject. The utmost wisdom is taxed to apportion and correlate them, and hence this is the second place where the judgment of the Association is needed in behalf of better science teaching.

The time has come when definite principles can be and should be formulated to help teachers in the difficult work of planning the details of their courses. Every science is now represented by men and women who are not experts only, but both experts and educators. The joint deliberations of a few such in each department could not fail to yield a "working formula" founded on sound principles, embodying practicable methods, rigid enough to hold the inexperienced in line but liberal enough to enslave no one, and elastic enough to meet the varying conditions of the schools.

Such outlines need not be perfect in order to be useful. Experience would reveal their faults and suggest modifications, but their formulation would open the way at once to convert desultory, fragmentary and narrow science teaching into more systematic, continuous, comprehensive and fruitful work.

The need of such aid is especially urgent in physics, in which more than in any other science, unless it be chemistry, the struggle for laboratory work is greatest. The teaching of physics in secondary schools is almost universal and physical laboratories are quite common, but it is no disparagement to teachers when we remember the conditions under which they work, to say that the satisfactory teaching of physics is rarely found. The untoward conditions already pointed out are sufficient but not the only causes of the failure. Uncertainty in regard to the real educational purposes and practical details of the work is enough, under the best conditions, to render the teaching aimless and fruitless. What shall be included in the course? How shall the class room, text-book and laboratory be co-ordinated? What shall the laboratory work be? These are bewildering questions to a teacher who stands face to face with the problem, with little experience, and no guide to its solution.

Lucid and practical answers to these questions founded on the prevailing educational philosophy and emanating from competent authority, would be of priceless benefit to the teacher. Here is a wide-open way to the speedy improvement of physics teaching in secondary schools.

Next to physics, which is fundamental and typical among physical sciences, botany may be regarded as fundamental and typical among biological sciences. A concert of action would doubtless do for botany, and we may add, for chemistry and zoölogy all that has been pointed out for physics.

Finally, in order to concentrate discussion and invite action, the committee asks for the approval of the following theses by the Association:

1. The importance of a continuous course of nature study in the elementary schools as an indispensable element in education, and as preparation for the study of science in secondary schools, calls for an immediate effort to formulate the objects, lay out the plans, and surmount the difficulties in the way of its successful operation.

2. The sciences should be taught in the secondary schools by a method which combines oral instruction, text-book study, and laboratory work, and an immediate effort should be made to establish the practice of such a method by securing the recognition of laboratory work in the construction of science courses, in the time allotment to science teaching in the programs, and in all science examinations in the schools.

3. Science may be accepted as preparation for college provided that the subject offered has been pursued not less than one year, five hours per week, by the method above described, and provided also that the original records of individual laboratory work be submitted for inspection, and that all tests of the quality of the work shall be not less severe than those applied in mathematics and Latin.

LEROY C. COOLEY.

VASSAR COLLEGE.

EDUCATIONAL PAPER DOLLS.

In the Pedagogical Seminary for 1896 there was published a significant article entitled "A Study of Dolls" by A. Caswell Ellis and G. Stanley Hall. It consisted in a detailed and somewhat extended account compiled from questionnaires, of doll play, principally as it exists among American children; of materials and objects used as dolls; of the period during which the play is particularly active; of the relative interest in it of both boys and girls; and of its general benefits to the child nature. The article closes with this paragraph: "The educational value of dolls [doll-play?] is enormous and the protest of this paper is against longer neglect of it. It educates the heart and will even more than the intellect, and to learn how to control and apply it will be to discover a new instrument in education of the very highest potency."

At the same time that the above research was in progress (though it was not known to me then) I was developing a method for the educational use of dolls and preparing a portion of the apparatus. I was at that time working in Professor Hanus's Seminary at Harvard, and it is to his enthusiastic encouragement that I owe the accomplishment of an undertaking whose difficulties have seemed almost unlimited. During the winter of 1895–6 I prepared some seventy-five dolls for school use as "the life of a little girl". Sixteen of these dolls, comprising two sets "Christmas Eve and Christmas Morn" and "Morning and Night" were accepted by a publisher and work was begun upon them at once. But it seemed desirable that these dolls should be stamped out, and after many experiments it was decided that the dies for this purpose would have to be obtained abroad. Hence the publication of the dolls, now otherwise ready, has been postponed.

Meanwhile experience in the use of educational paper dolls has been accumulating until I can say that their value in school work is no longer theoretical, but has been subjected to an experimental demonstration which, if neither rigid nor extended enough to establish a complete proof is, nevertheless, indicative of their great possibilities in school work.

EXPERIMENTS TRIED.

In 1891–3 I made my first crude attempt to introduce dolls into school work in connection with two primary grades, but the impossibility of obtaining suitable dolls—or rather *any* dolls—which could be used for this purpose gave as a result of this experiment only some rather interesting failures.

My second experiment was tried during 1896–7 and my thanks are particularly due to Mr. George P. Phenix of the Willimantic State Normal School for allowing me freedom to carry out my ideas in this matter while connected with his school. The dolls were used in a fourth grade of a public school (the Model School, connected with the Normal School) as a part of a course in early Greek history. A set of twelve dolls was prepared by tracing plates from Hope's Work on Greek figures. Among them were several soldiers in armour, one in travelling dress; a herald; a victor in a chariot race; woman presenting a wreath to a victor; flute player and others in every day costume. In size they were between six and seven inches in height, this being important both because the children seem to prefer rather small dolls, and because they were pasted into note-books which were but eight inches long. After tracing they were hektographed on both white and manilla papers and each child had two sets, the white to paste into the books, the manilla to play with as dolls. The hektographing being rather faint on the manilla paper (they having been printed after the white ones) the children were allowed to trace the prints over with waterproof ink, after which they were soaked in hot water when the hektograph ink disappeared. This last was necessary as the tracings were not conspicuous for their accuracy. The tracing, however, did much to cultivate care and neatness, as was easily shown on looking over sets, the later work being a very great improvement on the earlier.

The dolls were cut out after tracing and mounted on dead black cards 5x8 inches.*

I cannot say just how much time was given to this work because it was very irregularly done. On stormy days when half the children were absent, a portion of the regular work time was used; in the very warm afternoons of the early summer and as rest work occasionally I allowed fifteen minutes during which I generally read aloud. The whole may have averaged ten minutes a day for the half year, but had it taken twice or three times as long the results would have been worth the price paid, for the children got an idea of Greek life from those dolls which no amount of talking could have given them. I heard constantly such remarks as this: "I've lost my victor-in-the-chariot-race! He was my favorite doll." "Oh dear! I've spoiled my lady-presenting-a-wreath-to-the-victor-in-the-chariot-race—what shall I do?" "I wish I could have two soldiers-ready-for-the-battle, they're fine!" "My mother thought my herald was lovely." "I'm going to put all my dolls in my room on the mantel-shelf when they're done so I can look at them every day" etc., etc. Constantly pictures which were similar to the dolls were brought to me, and I have seldom seen a child more pleased with anything than on discovering the identical figure (often much reduced in size) in some reference book. Time and again I have heard a child call right out in school "Why! here's the very same soldier we have!—and it's in this book." Greek life came home to them in their dolls.

I cannot forbear one little incident which illustrates the children's interest in every thing Greek. One noon a man appeared outside the school yard selling candy. When I returned from my dinner I found a small group of children on the steps and a number more came running as I approached. "Please may we come in, we want to tell you something?" They gathered around me, perhaps twenty of them, and a large boy, —spokesman for the others,—fairly trembling with excitement exclaimed: "You see that man out there selling candy? Why *he's a Greek*, and he came from *Greece. He lived there!* And some of the fellows asked him if when he was home he lived in a house with Dorian or Ionian or Corinthian columns in front of it, and *he said Yes, he did!* Just think o' that! When he was home he lived in a house with Dorian and Ionian and Corinthian columns in front of it!" Chorus: "Yes—he said that, for I heard him—didn't he, Willie?" "Yes, he did." "Just think o' that." "What do you think o' that?" While all eyes were fixed on me in intense interest. One needed to see it to appreciate it, and to know that the parents of many of those children worked in the mills, or were day laborers, and lived in the cheapest and ugliest little houses one could well find. But we had gone through battles with our dolls; upon the sand tray we had taken part in Olympian games and victories; we had discussed Greek life, religion, superstitions and ideals until the mere mention of anything Greek was sufficient to call forth inquiry and remark.

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*Cards may be procured from a wholesale dealer in large sheets and cut to order. The sheets cost about five cents each when bought in quantity; thus each card costs but a small fraction of a cent.

My third, and most important experiment in the educational use of dolls is at present in progress in the schools of Ithaca, New York. I have to thank Mr. H. W. Foster, Superintendent of Schools, not only for his prompt permission to introduce an unusual course in nature study, closely correlated with nearly all the other school work, but for his hearty co-operation and assistance from the first.

The dolls we have used have been hektographed, and up to date we have given out between eight and nine thousand of them to the children. The work has been carried out in twelve different rooms (first, second, and third grades) under my direction, though I myself have not given any of the lessons. The work is so new to the teachers that it seems hardly fair to pass any judgment upon it, even to say that it has been highly satisfactory and in some ways really remarkable, but I may say this, that the results thus far have, to my mind at least, proved conclusively that any teacher can use the paper dolls with success *if she wishes to.*

The dolls are used as object lessons and the children tell stories about them, write the stories and paste the dolls in the story books as illustrations. I shall have more to say on this later. I have read numbers of the stories, especially those written by the third grade children and they were, as a whole, the best work in English I have ever seen in that grade; they were spontaneous and free and well put. Of course it isn't *all* the dolls' doing, because there are excellent teachers to use them, so that I must admit that I have no data for judging *what the dolls would do if left to themselves*, still I firmly believe that, given: child and dolls a certain amount of education will and must be the result—an education specific in kinds and varying in quantity of each kind with the same individual conditions of attention, receptivity, initiative, fatigue etc., which govern the education of every child.

In order to show more concretely the results of this work I append a few stories selected from about forty written by the children of one third grade, all upon the same doll, Tilly, the "help." Nearly all of them were of a somewhat uniform type in the beginning, telling what Tilly is and does, but after this, one—a boy of eight—tells us for instance that "last year she slipped on a piece of ice and broke her arm." Another (girl, nine) "Tilly, she made cake and forgot it, and it burned up." etc.

The following are entire:

[F. 8.] "Tilly is a servant. She is good to the children. One day Tilly was baking and Polly came in the kitchen.

Polly wanted some dow,
But Tilly told her to wait
Polly said she wouldn't do it.
So she took a big piece of dough and ran away with it.
Her mother saw her and asked her about it.
Polly told her.
And her mother gave her a whipping."

(Questioned; said she made it up and never heard of any little girl acting so.)

[M. 11.] "Tilly is the servant. She is sweeping. She gets about four dollars a week.
This morning when she was washing
the dishes she broke two plates.
She did not tell the lady for a week,
which made the lady very angry.
She has to get up at five o'clock in the morning.
She has worked there two years.
She is a good cook.
The children like her very much."

(Incident is pure imagination; no servant kept in the family.)

[F. 8.] "Tilly is the servant girl.
The little girls like Tilly.
She sweeps the kitchen every day.
Tilly bakes cakes or pies.
She bakes a little cake or pie for each one.
Santa Claus will fill her stockings I know he will.
She has worked on the farm for two years.
The children are kind to her.
About a month ago she had a telephone message.
Her mother was dead.
She went to the funeral.
She goes out every morning and feeds the pigs and chickens and then the cat and dog."

(This is probably pure imagination, but the child had left school and could not be questioned.)

I do not wish it to be supposed that these stories were selected at random from among forty, for they were not, as my intention was, not to exhibit the general average of a grade's work, but to illustrate certain possibilities in story-writing by children of a given grade where stimulated with material adapted to their age and interests. I think I may state, however, that all of the forty children enjoyed writing these stories, even though many were very commonplace when completed.

EDUCATIONAL PAPER DOLLS.

The first consideration in the use of paper dolls for educational purposes is, of course, the providing of objects especially interesting to the child during the doll-period, a period in which most children are attending school. For this purpose there have been prepared (or are in preparation) dolls and sets of dolls adapted for use in the lower grades of the schools in connection with nature study, English, geography, and history. In the last their use may be continued somewhat after the doll period proper has ceased.

The dolls now ready constitute a family and they are at present in use as a part of the nature work I have already mentioned in the Ithaca schools. In this work the *Farm and the Family* are made the center of correlation of studies for the lower grades. Each school room has its model farm laid out on a 6x2 ft. table, and land structure and composition, measuring and map drawing, plants, animals, insects, trees, and farming industries *are studied as parts of the environment of the family who went to live on the farm* (the paper dolls of course!) I have also introduced the *continued story* as an integral part of the work, believing that that expresses a natural need and interest of childhood.*

The paper doll family consists of the father, mother, grandmother and Tilly, the "help," who are the adults; Jack (aged 16), Lucy (aged 14), Fred and Dick (twins, aged 11), Helen (8), Polly (6), Warren (4) and Anna, the baby, one year old. Their names have been selected largely with reference to the ease of writing, though partly, I must confess, they have been named for little friends.

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*For an interesting account of an investigation in the continued story see an article by Mabel W. Learoyd in Am. Jour. Psych. Vol. VII., page 86, who found that 63 per cent. of the girls and 56 per cent. of the boys examined told continued stories to themselves, and often through a number of years.

In size the dolls range from the baby, 2½ inches in height—to the father 6½ inches in height, and vary according to age by about half a head each. I have tried to keep them as small as could be handled by children of the lower grades while cutting and coloring, first because, as I have said, the children seem to like them better, and second because the smaller dolls can be perceived with less eye movement than the larger.

The twins have been used rather than one child of the age because I have noticed that a peculiar interest always seems to attach to twins. I ascribe this to the half-conscious influence of the *identity idea:* that we feel that no matter how closely he may resemble him Fred is *not* Dick, Fred is Fred.

METHODS.

The method to be followed in using the dolls for developing mental constructiveness, or imagination, and work in English consists simply in applying a given formula to an increasingly complicated series of dolls beginning with one. This formula is

I. Observe, Describe;
II. Imagine, Narrate.

Give out one doll at a time for a lesson until all the members of the family have been used; let the children *observe* and *describe* so long as they can find anything to observe. After each doll has been so studied and the children have made the acquaintance of the family, take one doll and have them *imagine* some incident or situation in which the doll is the central figure, and *narrate* it. Let the imagination take this form: "What about ——?" "What about" the mother? What does she do? Like? Say? What about Polly? What does she do? How old is she? What does she play? What about Jack? The baby? Tilly? The grandmother?

When all has been accomplished that can be in this way with one doll, use two, one of which may be an animal, or a representation of an inanimate object, a door, window, chair, table, cradle, stove, wash-tub, bed, bureau, etc., etc. The work in the first grade would better not go beyond this point.

After two objects, use three, four, five, six, etc., in the same way to as great a number as convenient. The question "What about these things?" will be the same whether there be one or many, and the child should narrate what is suggested by the different combinations. In this, however, it is of great importance that what is narrated concerning a doll or set of dolls shall be *appropriate*. This is a direct training of *taste*. Good taste as against bad taste in dress, household decoration or personal conduct consists largely, if not entirely in the preference for the appropriate as against the inappropriate, and makes thus a real, not an artificial, standard for all times and peoples. What is excellent taste for a workman, or in a cabin, is, or may be execrable for the prince, or in a palace, and conversely. To teach the child to discriminate between the appropriate and inappropriate acts and characters supposed to belong to paper dolls is to teach him to discriminate with regard to the real acts and characters of people, and to his own. All that he ascribes to the dolls he has either seen or imagined as incidents of real life and his attitude toward these—his *feeling* for them—will help to mould his attitude and his feeling for subsequent and similar events of real life.* He thus only follows the law of habit, which is, that having acted in a certain way on one occasion he tends to react in a similar way on a similar occasion. We may therefore introduce ethical training into our work by suggesting or describing acts of the dolls and causing the children to compare these acts as good or bad, right or wrong, and to approve or condemn. For this purpose a family of dolls is particularly valuable, first in affording the natural and primitive setting of ethical conduct, and second (if it be a large family) in giving abundant material for a great variety in kinds of conduct: What will be right for the child

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*In his *Analytic Psychology* Vol II., pp. 265-67, Mr Stout has given an interesting section on the "Influence of Imagination on Conduct." While he does not overstate this influence or wrong conduct, he perhaps underemphasizes its influence for good. In my own case I think the balance has been decidedly (though not enormously) in favor of the good.

will not necessarily be so in that particular case for the parent. Here the children's imaginations will often run wild, but the question "Do you think he (or she) would do that?" will generally be sufficient to suggest the discrimination and cause the child to select such only of his thoughts for his narrative as are appropriate to the person under consideration.

We wish to use the dolls to develop inventiveness in the child, and, in response to them all sorts of things will come to his mind having more or less the character of an invention, *i.e.*, of a new thing which appears as a result of the child's own mental processes, and which, in that particular form he has not derived from any of his senses; but this inventiveness must be guided by the laws of good taste and appropriateness in order that it may be ultimately useful to society at large. Mere unrestrained inventing is usually sterile of good for any one, as may be seen in some cases of insanity where activity in this direction is above the average in quantity, but its products are worthless. Therefore, have the child Observe, Describe and Imagine *but select such things as are appropriate* and Narrate.

A second method of using the dolls is to take one doll which may be represented as performing a series of actions each one of which is more or less dependent on another. This necessitates a separate doll for each action represented. The purpose of this method is to *develop the idea of appropriate sequence.* Such sets as these may be used, "Christmas Eve and Christmas Morn", "Keeping House," "A Day in the Country," etc. They should always be given first as a puzzle and the children required to work out the sequence—*the appropriate sequence*—of the acts depicted, tell the story in their own words and then embalm it in the Doll's-House Book.

THE DOLL'S-HOUSE BOOK.

For the Doll's-House Book provide a blank-book or scrapbook into which the dolls of each story are pasted together with such pencil drawings as the child may think best. With this will go the written story *in so far as he is able to give it.*

With very little folk the names of the various dolls and objects will be the limit of their powers, and the Doll's-House Book will really be an illustrated word-book; with the older ones it will be a sentence-book, and with the oldest a story-book. Children should be led to look upon it as incomplete without writing; they must also strive for a clear arrangement of writing and picture on each page, and all the work must be done with neatness and care.

As some of the paper dolls are in outline only they will serve as "busy-work" in cutting and pasting and coloring, but it must not be forgotten that they are not primarily intended to afford "busy-work" for the child but to stimulate him to *observe*, *describe*, *imagine*, and *narrate*.

I should say before closing that these paper dolls are intended for use in the kindergarten also, for I believe that "story laying" would be a wonderfully profitable substitute for some of the tablet-stick-and-slat laying which, while it is not altogether useless, is nevertheless highly artificial.

I think it may be shown that play gives rise to interest and interest clears the track for such associations of ideas as may be called mental constructions; that play with certain materials arranged in series and presented in a definite way will leave as a residuum certain thought processes which are repetitive, constructive and discriminative; I have tried to point out a method by which with certain, material play, could be made applicable to school-room education above the kindergarten. What I wish to urge on behalf of this material [paper dolls] is, not that no other material will serve the purpose, but that that material in which the child is particularly interested at a given stage of his development will better serve the purpose than that in which he is not particularly interested, and it is my firm conviction that paper dolls will furnish the one, among many means especially adapted for this use during the doll period of childhood.

In the plastic state of the child's mind, and up to about ten years of age, it really does not matter so much *what* he does as *how* he does it. For every act, every thought there remains a residuum, however slight. Acts may be forgotten and ideas obliterated from his mind with each passing year, but the *processes* by which those acts were performed, the *associations and habits* which those ideas tended to develop remain as actual determinant factors in the performance of subsequent acts and the treatment of new mental data. Ultimately the sole aim of education is reduced to this: *We must endeavor to make the child master of as many processes—both mental and motor—as possible, and stimulate the impulses to use those processes in carrying out original ideas and in supplying needs and desires as they arise.*

MARION HAMILTON CARTER.

CORNELL UNIVERSITY.

A GERMAN VIEW OF AMERICAN UNIVERSITIES.

Structure and methods of American academic institutions are subjects which have recently received an unusual share of attention in periodical literature. This is part cause and part effect of a more or less general consciousness of our academic institutions being in an unsettled state. Certain extraordinary interior and exterior forces have been at work in the last decade unsettling the established order and rendering our institutional growth more responsive to new ideals. On the one hand we have experienced the natural and inevitable demand which the attainment of a larger intellectual growth brings for modifications and new adaptations. On the other hand we have the cosmopolitanizing influences—an increase of knowledge of other types—coming largely from the growing habit of graduate students and instructors frequenting the German universities. It is scarcely too much to say that the present note of dissatisfaction with our traditionul structure and methods is to be attributed more to the German influence than to any other cause. The thoroughness and the fruitfulness of the German scholarship have directed attention to their methods of academic training. The true scholarly spirit which recognizes superior quality and emulates it in so far as practicable is asserting itself in both America and Great Britain. The German model is being more or less rapidly approached—an evidence of superiority to petty local, or provincial prejudices. We honor ourselves in America by the unstinted and hearty tribute we pay to the superior excellence of the German scheme of higher education.

A cross section view of our present institutional status by a competent and judicially minded German at this time must be viewed as a valuable contribution to the growing literature of the subject. Such a contribution is made in an article, entitled *Universitaten in den Vereinigten Staaten von America*, which appears in the *Handwörterbuch der Staats wissenschaften* for 1897 by the eminent economist, Professor J. Conrad, of the Halle University. The article is one of the fruits of a visit to America by the author during the summer of 1896. While it is a very brief sketch—more descriptive than critical—and designed solely for German readers, it is valuable to the American reader as indicating something of the impression which our culture institutions, in their present stage of development, make upon a German observer.

Very naturally the first thing to attract attention is our loose academic terminology. "The American designation for the highest educational institutions," the writer says, "are universities and colleges, which are to the German very misleading. Many institutions in the west which are scarcely on a grade with our gymnasia call themselves universities, while the great institution at Cambridge, near Boston, which is on a plane with our universities, bears the official title of Harvard College."

Among the structural anomalies noted is the isolated character of the old type of college, which resembles the German gymnasium in being usually separate in its location and always distinct in its functions from the faculties of law, medicine, and theology, and the isolation from the college and from each other of the latter schools. The present tendency, however, to bring the different professional schools into relation with the college does not escape the writer. This tendency may be more apparent than real in the German sense of the interrelation and co-ordination of the different faculties. The inclusion of the polytechnical and higher art schools within the general university scheme is a feature which is simply noted as extraordinary. In evidence of this inclusive conception of the university the founder of Cornell is quoted as desiring "to establish an institution where every kind of higher learning and knowledge might be acquired." In describing the prevailing type Professor Conrad begins by noting the exceptional character of Clark University, which, from the beginning, has given only university instruction, but which is still only in the developing stage. With the single exception of Clark, the American universities are described as representing to the German mind "only the gymnasium and real schools, or a combination of these and the university. The under classes, the first two and often three years, correspond to the higher gymnasial classes. After that the instruction given in the higher institutions includes the work of the German philosophical faculty, rarely that of the other faculties."

The matter of instructional material is regarded as a likely cause of false notions of the relative rank of American educational institutions by a German, in that many studies are pursued in the preparatory schools as well as in the classes which correspond to the German gymnasium, which on the continent of Europe are confined to the university; including such studies as philosophy, geology, law, astronomy, and political economy. He mentions also the superior advantages enjoyed by the students in the lower branches in such matters as libraries, museums, and particularly laboratories, "the natural sciences occupying a very prominent place in the colleges."

As to the founding and organization of our universities they are classified as private and state institutions. "Any one who has the means may establish a university without first securing the permission of the public authorities," says the author—A statement which should be modified by adding "providing they show in their application for a charter that they have conformed to the statutory requirements." The remarkable movement in the direction of private endowments within the last decade is noted. The writer observes that the state universities are chiefly in the middle and western states. (His field of observation did not include the southern states.) The Michigan University at Ann Arbor, the Wisconsin University at Madison, and the Ohio State University at Columbus, are mentioned as among the more important. He observes that the principal universities of the east, as also Chicago University and Stanford University in California, rest upon private foundations. "These had all in earlier time a pronounced confessional character, which in recent years is tending to disappear. Generally it is only insisted that the president and the whole or part of the board of trustees shall be of the same religious sect as the founder, while no attention is paid to the religious affiliations of the instructors. In the founding of Cornell special provision was taken against the control of any religious sect."

The remarkable growth of the state universities in recent years did not escape the notice of Professor Conrad, which "with the exception of Ann Arbor," he observes, "have formerly occupied a lower plane in point of facilities and efficiency."

The organization of both classes is described as being "in the main the same. The entire control lies between the president and the board of trustees, the latter constituting a kind of board of control and advice, and court of last resort. The board of trustees decides about all money matters, and together with the president, upon the motion of the faculty, confers all academic degrees and honors. The membership of the board of trustees is a matter of the deepest significance to the prosperity and success of the university. In the state universities it is generally the governor and the state legislature who choose the members of the board, the governor himself being a member ex-officio. The manner of choosing trustees for private universities is different. The trustees are chosen by the graduates of the university, or a self-perpetuating board has been appointed by the founder. In the state universities the trustees are likely to be politicians and business men. In private universities financiers are inclined to predominate. The greater the influence of the alumni the more do we find the tendency of the board to an academic character—including pastors, lawyers, physicians, etc."

As to the importance of the position of president he says: "The administration of the affairs of the university lies entirely in his hands. Only in the matter of money are his hands bound. Therefore the prosperity of the university depends largely upon the personality of its president, and a man of eminence is usually chosen for the post. . . . The presidency is a brilliant position, and usually brings with it a free mansion and from five to ten thousand dollars per year.

"At the head of the faculty stands the dean corresponding to the German *Decan*. He is chosen by the trustees from the list of full professors and continues in office at their pleasure, or until they have appointed some one to succeed him. He receives a special compensation for his services as dean, and in the larger universities he has an office at his disposal. As director of examinations and leader in all university matters he possesses a great influence.

"All money matters go through the hands of a treasurer. The trustees often choose a retired business man for this office."

The first object of note in connection with the instructional body is the great number of classes of instructors. "Next to the ordinary, the full or head professor is the associate-professor, which" he says, "may be compared to our *Extraordinarian*, then follows the assistant-professors, assistants, associates, instructors and readers. The last two might be compared to our lecturers, the others to our *Privatdozenten;* only that no one undertakes instructional work unless provision is made for his compensation."

It is not a matter of much importance, but the above classification is not quite typical. The multiplicity of classes of instructors is exceptional. It is the rare exception that more than four or five terms are used to designate instructional positions, which are in the order of their rank professor, associate-professor or assistant-professor, instructor and assistant. The title of assistant-professor may sometimes be used to represent the same rank as associate professor and sometimes the same rank as instructor. In most cases the position of instructor would correspond to the rank of *Privatdozent* in Germany. Like the German ordinary professor, extraordinary professor and private docent the full professor, associate or assistant professor, and the ininstructor in America each enjoy the independent direction of courses of study. The essential difference between the rank of instructor and the position of assistant is that the latter is not usually entrusted with the direction of instructional work.

The following are some of the examples given: The University of Chicago with 1,560 students, 38 head-professors, 49 associate-professors, 32 instructors, 12 associates, 15 assistants, 4 readers, and 9 docents.

"In Cornell we find with 1,700 students, 34 head, 13 associate, 20 assistant-professors, 75 instructors and assistants, in all 142 instructors."

"In the Illinois State University, at Urbana, are 21 professors, 22 assistant-professors and 34 instructors and assistants to 855 students."

Johns Hopkins is designated "as the oldest university" with 30 professors, 11 associate-professors, 17 associates, 27 instructors and assistants, 21 lecturers and with 593 students.

Harvard is credited with 98 professors, 29 associate-professors, 138 instructors and 21 lecturers to 3,666 students.

An especially noteworthy phase is the tenure of instructional positions. It seems strange to the German mind that "until recently, and still to a considerable extent, the employment of full professors is from year to year; though in recent years a full chair in a university is coming to be more and more regarded as a life position. Still it is a fact that the employment is under such conditions that the trustees have the power to remove a distasteful instructor without any compensation for the loss of his position. The independence and scholastic freedom of the instructors, as in Germany, is not found in America."

"The compensation of professors is not small, but for American conditions nothing remarkable. A full professor generally begins with a salary of $2,500, in the smaller colleges with $2,000, which increases to from $4,000 to $5,000, in very extraordinary cases to higher sums. The entire compensation is included in the fixed salary. The payment by the student of a special fee, or *honorarium*, for the lectures which they elect is unknown."

The most interesting point is the methods of instruction, which are designated as of a "school character for the upper as well as the under classes." "Having made an election of his course of study, the student is obliged to attend to whatever belongs to it. At each class meeting the instructor or his assistant must see that every student is in his place. Where one is frequently absent without excuse he is called before the dean and warned, and if he continues the offense he is suspended at the close of the semester."

"The instruction itself is differently handled. In the smaller universities, and quite generally in the lower classes it is according to the methods of the more elementary schools. The students follow a text-book, and the teacher seeks by questioning to find out if they have understood what they have read, and if they have done their work properly, and the students ask questions of the instructor about points which are not clear. In recent times it is becoming more usual to approach the German method, and place the free, independent lecture in the foreground, and to limit the number of hours devoted to questioning. At the close of the year all of the 'hearers' are given written and oral examinations, which are to determine if they may be promoted to the next higher class. The freshman expects to be a sophomore, at the close of the second year; the rank of junior is aspired to by the sophomore, etc., and at the close of the four years the B. A. is conferred upon successful candidates. That is the historical philosophical degree, or B. S., the natural science degree. The holder of this diploma is for the first time a student in our sense."

The ages of students are very different. On the average, for both men and women, they enter the first class at nineteen. After the four years' college course, in their twenty-second or twenty-third year, they begin their special study.

The writer thinks that in scarcely any country of Europe do the students remain to such a high average age under such a control and discipline, and subject to such frequent tests as to their progress. In the private universities are very generally large dormitories, where the greater number of students rent rooms, a part with and a part without furniture, where they are under the charge of a resident instructor. In connection with these are often dining rooms, also under the direction of the university, "and from which all alcoholic drinks are excluded."

In the larger universities students' reading rooms and libraries are open the entire day, services which are not yet afforded by the German university libraries.

The want of uniformity of rules of admission to the freshman class, the want of general system in preparatory schools, the requirements for the different degrees, and the tendency to substitute the modern languages for Greek and Latin, the general rule for conferring the M. A. degree, the small number who reach the doctor's degree, are each subjects of note, but not of comment.

A more detailed study might have noted a growing tendency to substitute certificates from preparatory schools for entrance examinations. Had the study been directed to the present tendencies of our university activities it would have noted the increasing attention which is being paid to the graduate department and the growing number of candidates for the doctorate, as the most interesting phase of our university life.

Illustrating the want of system or uniformity in the matter of expense to students in the different universities he cites the North Western, where the annual fees amount to $69, besides diploma and laboratory fees in the college, and $100 for men and $75 for women in the medical department; in Johns Hopkins a registration fee of $5 and an additional fee of $50 for every five-hour course, and in the medical department $100 per year; in Harvard the annual fees are $150 and the minimum total expense, including cost of living, is estimated at $372; the total expense at the State University at Columbus, Ohio, ranges from $150 to $350.

The relation of women to education is found to be a matter of great interest. This study begins in the high school, where "the two sexes are generally together, particularly in the west." The larger liberty of election of high school studies, and the shorter hours, 15–18 per week, with Saturday free, are mentioned. For the respective choice of studies made by girls and boys the report of the Commissioner of Education for 1893–94 is quoted, which gives: Latin, 51,000 boys to 71,000 girls; Greek, 10,700 boys to 3,600 girls; German, 2,600 boys to 2,200 girls; French, 5,000 boys to 2,800 girls; chemistry and physics, 45,000 boys to 58,000 girls; geometry and algebra, 66,000 boys to 96,500 girls. To find more women than men securing a grounding in the ancient languages, mathematics, and the natural sciences is something not known or dreamed of in Germany. Professor Conrad accounts for the fact that the female organism is able to stand it in America on the ground of the lighter hours and provision for physical culture within the school.

Coming to the women in colleges "The report for 1896 shows that in 1894 there were in American colleges and universities 58,465 women. Of these 23,707 attended isolated women's colleges while 34,758 were in co-educational institutions, women constituting 24.2 per cent. of the student class. The reader is warned here, however, from interpreting the term "student" in the German sense, since most of the instruction in these institutions has a "school" rather than a university character, and since in the higher classes the percentage of women becomes smaller, and in the special schools the number becomes very small and practically disappears in the faculties of law and theology.

Among isolated women's colleges Bryn Mawr, Wellesley, and Smith College—the latter with 1,000 students—are mentioned. The following statistics are taken from the Bryn Mawr catalogue for 1895–96: Seventeen instructors and seven women teachers for 283 students, of whom in the last year twenty-six received the degree of B. A., one the Master of Arts, and one the Doctor of Philosophy. Ancient and modern languages were most numerously elected. About one-sixth elected mathematics and natural science, about as many philosophy and political economy, and a somewhat larger number elected history. In general only ten hours in the week are given to lectures. Much the largest proportion of the students sought only a general culture, not intending to make any practical use of it. A small number were fitting themselves to become teachers.

The most signal difference between the American and the German universities noted is the absence in America of the four faculty scheme, particularly the absence of the theological faculty. At present there is a tendency to bring the faculties of law, medicine, and theology into organic connection with the college, but it is also noted that this result has been fully attained only in exceptional instances.

"The isolated professional colleges and seminaries are for the most part private institutions, and very different in character. The conditions of admission to the candidacy for the bachelor's degree are very arbitrarily fixed. In the more backward states and institutions any one is admitted who matriculates and pays. The courses of study are also very different. Many institutions require only from one to two years before the candidate is admitted to an examination; but the better institutions require from three to four. The diploma confers no rights upon the holder. It is only a letter of recommendation. Each state has special commissions for the examination of persons who wish to practice medicine or law or follow the profession of teaching in the public schools. As to the ministerial profession it is under no state control. Each religious society has its own theological seminaries and the examinations of candidates are conducted by synodical committees."

In 1894 there were 7,658 theological students of all denominations. These were divided as follows among the different denominations: Presbyterian, 1,375, or 17.9 per cent. of the total; Catholic, 1,250, or 16.3 per cent. of the total; Baptist, 1,101, or 14.4 per cent.; Lutheran, 938, or 12.2 per cent.; Methodist, 924, or 12.1 per cent.; Congregational, 626, or 8.2 per cent.; Protestant Episcopal, 444, or 5.8 per cent.

The extraordinary attractiveness of the medical profession in the United States is attested by the attendance upon the medical colleges. For the decade 1883-84—1893-94 the increase in the number of medical students was from 10,600 (to which number should be added 1,627 students in homeopathic schools) to 21,802. The present number is larger than that of any other country. England with a population of about 37 millions has about 7,000, France with a population of about 40 millions has 5,144, Germany with a population of about 50 millions has 8,684. The provision for quality however does not seem to conform to the quantity of candidates. In some places the writer considers it incredibly bad, as in some parts of the west "where an entirely uneducated barber may after a year of medical study secure through a state examination the right to treat human diseases."

In the 67 law schools 7,311 students were matriculated, of whom 2,455 received their bachelor's degree at the close of the year. In eight of these schools the bachelor's degree is conferred after one year of study, in the most of them after two years, in a few after three years. In the west the custom is known for an entirely uneducated court clerk to receive, after one year, the right to act as judge or barrister. In the east the requirements are high. The writer pays the Harvard Law School the compliment of calling it one of the "most creditable in the world, where an all-sided scientific grounding is required, and where the candidate for the law degree must first have received his B. A."

Professor Conrad could have found material for even severer criticism of the preparation required of members of the legal profession in some of the American states. If the Germans do not know that in some states "a good moral character" is the only test required of candidates for admission to the bar, they do not yet know the worst.

The members of our instructional bodies who with us do not constitute a separate faculty, but which correspond to the German philosophical faculty, and their facilities for instructional work in the larger colleges, come in for very high praise. The instructional talent and the equipment in the departments of the modern languages and the natural sciences are regarded as particularly praiseworthy. Likewise the polytechnical schools, both those included in the general university scheme and our great isolated institutions like the Massachusetts Institute of Technology at Boston.

A short description of the university extension system, a scheme to make the university more universal in the extent of its activities, in which both university instructors and others are employed, indicates the author's approval.

In conclusion the writer quotes from statistics that in 1894 there were in the United States 476 colleges and universities with 143,633 students, of whom 24 per cent. were women and 4.9 per cent. were colored. The number of instructors was 10,897, of whom 13.8 were women. One hundred and sixty-six colleges received only women students.

Their rolls included 23,707 names of pupils and 2,460 teachers.

Of the income to these institutions 34.3 per cent. came from endowment, 38.1 per cent. from fees from students, 17 per cent. came from public property, and 10.6 per cent. from other sources.

As before indicated the article is designed to instruct German readers as to the more general features of American colleges and universities. Most American readers will probably concede that it is on the whole a fair picture of present conditions. If the comments upon our methods and discipline —as elementary in character—might be construed into criticism, it must be admitted that a German visiting any American university, even the most progressive, could not fail to be impressed with this feature. He might have gone even farther and associated the remnants of the hazing and other childish pranks with the methods and discipline which the Germans apply to their elementary schools. In this connection the surprise at the methods of the German universities must have been as great to an acquaintance of the writer's, a graduate of one of America's most prominent universities and theological seminaries, who having just matriculated at Berlin, expressed the hope that the professors would not call on him to recite until he had a better command of the language. If there is anything in the article to which honest American pride might take exception it is the too little attention paid to the transition phase of our academic life. A study of this phase would indicate to the Germans that a number of the features noted in Professor Conrad's article are about to the end of their lease of life.

JAMES HENRY HAMILTON.

SYRACUSE UNIVERSITY.

ART AND SCIENCE IN EDUCATION.

There must have sudden and great change come over the interests of mankind that educators in our day think it necessary to debate whether art should be the honored companion rather than the humble servant of science. Not long since, as time goes, it would have been more in place to ask if science could produce any grounds for its existence because of the service it might render art. It is indeed a matter of no small wonder that in the passing of a century or two the methods and results of inductive science should have come to so largely influence our common thought and feeling; but the most dull of sight among us can easily see that the movement set in motion a few hundred years ago by Francis Bacon has already penetrated into the very vitals of modern civilization. Our ancestors of no remote period were content to hold converse with nature at a distance, to view her forms and processes half distrustingly, not at all confidentially or frankly. They were only partial worshippers of the actual as this was discerned by the operation of the senses ; but they rather centered all their hopes and fears around the supersensual, the metaphysical, the mysterious. To our forefathers, earnest and reverent people that they were, the universe consisted of two worlds separated by an impassable barrier,—the world of spirit and that of matter; and man was so unhappily constituted as to have in his nature elements of both which warred continually one against the other. The world of matter comprised the regions of darkness and untruth; it was the habitation of all things evil, and there could be found therein no goodness or purity. The world of spirit was its opposite, and it was man's highest duty as well as privilege to so order his earthly conduct that he might sometime become a tenant of these spiritual realms.

So it happened that men avoided contact with nature, in the hope thereby to gain closer communion with the things of the spirit; and in this hope were the beginnings of religion, philosophy, poetry, art,—all one and the same in essence, and differing only in external attributes. Art in its stricter sense became principally the medium of graphically representing the religious hopes and fears of mankind; and so far as it regarded nature it did so haltingly and with suspicion, for in her secret vials were concealed the poisons of spiritual life. That the visible, objective universe was the outward manifestation of divine love and truth; that in its wholeness, if not in its minutest parts it contained rich harmonies for eye and ear; that everywhere—above, beneath, in the stars, the flowers, and the rocks—there were written order, symmetry, beauty,—these things were not possible, much less probable. So art did not concern herself with them particularly because it could not find them,—it did not believe in them.

Now what a transformation is apparent! How ardently and carefully men are striving to woo from nature her deepest secrets, her most profound truths! And every day the wonder of it all grows, for greater order and harmony are seen, more of purpose and love are visible, the realm of beauty widens in all directions. The world seems to believe to-day that if it waits and watches it shall behold the truth, and the truth will make it free. Nor are we required longer to view nature in the simpleness of our native vision, or listen to her melodies with unaided ear; but Providence has added unto us complementary organs in the lens, the photographic plate, and the electric wire which have so vastly extended our powers that we discover truths where formerly nothing but death, disorder, and decay were visible.

All these things are being gained through a well-nigh sacred regard for exact truth concerning not only objective but also human nature as revealed in the individual mind and in history and society. This new interest we have called science, and its great passion is to be accurate, to get real facts. Sometimes it seems heartless in that it does not apparently care how what it finds will immediately affect human life, only so that it be a faithful account of nature's constitution and processes.

There must be no feeling mingled in with the items of this account, nor any of the imagination; it must be simply a record of nature's ways passed through man's senses.

But now, what of art? Has this mighty revolution which science has introduced into human life changed the stature of art? made it less a necessity? rendered it a servant instead of a master? Let us ask first what meaning we are to put into the term art. And who shall be bold enough to try an answer, for is not the realm of beauty in which art dwells forbidden to all intellectual excursionists, as the psychologist, the biologist, and the scientist of every stripe? Beauty we are told must be felt; it cannot be analyzed, dissected, talked about. We must admire, must worship, not attempt to define. There are those in whose eyes beauty seems to be more beautiful because it is thus mysterious and unknowable. We are told again that that part of the human soul that apprehends the beautiful, that appreciates the æsthetic, is subject to no law, but is spontaneous, is intuitive; that while the coarser elements of the mind have to do with perception and reason, these higher portions form the habitation of pure feeling and imagination which admit of no classification and little description without doing violence to their æsthetic character. So while the psychologist fearlessly explores all the other regions of the mind he makes his approach to this part with much trepidation, because perhaps of this strange sentiment which has from aforetime encircled it. It has come to pass on this account that the layman's comprehension of art has been exceedingly vague and indefinite, and he has little understood the masters when he has sat at their feet for instruction. The masters themselves have felt this, and one of the greatest of them has grieved that "it has been the fate of arts to be enveloped in mysterious and incomprehensible language". "If," he says, "in order to be intelligible, I appear to degrade art by bringing her down from the visionary situation in the clouds, it is only to give her a more solid mansion upon the earth. It is necessary that at sometime or other we should see things as they really are, and not impose upon ourselves by that false magnitude with which objects appear when viewed indistinctly as through a mist."*

In the assurance of these strong words let us here hazard some definitions of art from an educational point of view. It is first and in part an interpretation of the facts of science from the standpoint of human needs and human hopes,—not science in its details perhaps, but in its larger and more significant aspects. The statement may be made without argument at this time that the human mind is the highest product of the Creator, and that all the facts of nature have a value for it, either hopeful or fearful, worthy or unworthy, beautiful or ugly. Science gathers the facts faithfully, truthfully, and without distinction as to their character; and the soul beholding them, expresses through art its feeling toward them, the meaning which is suggested by them. Science does not put interpretation from the soul's standpoint upon any of its results; it does not aim to,—it leaves all this for art. Science, then, goes forth as the fact-gatherer, and art follows with cheerful step as the interpreter; and for interpretation it chooses that which is most uplifting, most inspiring.

But art has not in the past always regarded this as its proper mission, and it is not universally so considered in our own day. There is an art in our midst which frees itself from, even sets itself against, all fact gained through sense, and depends alone upon the issues of the imagination. It does not interpret anything but the concepts of unguided fancy, which while natural may still not be according to nature. Such art deifies the imagination, and reposing absolute confidence in its products, seems blind to the evident truth that given free reign it may bring forth the most unworthy, unlovely, unreal conceptions under the stimulus of fear, of ambition, or of sensuous emotion. Can one not say that much of the art of the past has been exceedingly trivial because it was concerned not with universal truth but with the wanderings of individual antique fancy? The art of our forefathers was doubtless in a large degree characteristic of their views of nature and life, but the scenes change rapidly in these times. The age of mythology grows dim in the past, while the tide of scientific truth already surges round us; and art should help not hinder humanity in freighting its burdens safely into the broad sea. It is sometimes said that art should portray that which will delight the mind even though no counterpart, or even likeness, may exist in objective nature; but it devolves upon those who make such statements to show that what is truthful to the plan and order of the universe although not merely a copy thereof is not at the same time a more delightful and acceptable nourishment to the mind than that which is purely fantastic.

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*Sir Joshua Reynolds' Works, Bohn's Standard Library, Vol. 1, p 408.

Art is, then, the complement of science indeed, but cannot be independent of, much less indifferent to it. There seem to be those who feel that if art keeps company at all with science it must by such association soon become mechanical, and so lose its power to inspire and uplift human life. We hear much nowadays of this mechanicalizing of the soul by scientific methods and results, and it would seem as if there were some irremediable conflict between the conception of order and regularity in the universe on the one hand and mental freedom on the other. This is not the time or place for a psychological examination of mental or moral freedom, but it may not be inappropriate to remark in passing that the highest form of spontaneity seems to be that which is subject to some law rather than that which is without guide, without control, the result simply of undirected fancy. Freedom consists, at least in part, in the escape from uncertainty, from indeterminateness, and seeks refuge in the establishment of definite, habitual ways of action. If art, then, in the hope to preserve its spirituality divorces itself from that regularity and orderliness which is seen everywhere in the universe, just at that time it becomes unnatural and is no longer art in the highest sense. We would not if we could return to that age when the imagination reigned supreme, when the pictures of individual fancy rather than the more universal products of sense were chosen as the most worthy objects for artistic representation.

The artist of to-day, then, must be a scientist, but more than one, never less than one. This must have been Ruskin's thought when he said that however far above science art must still comply with all the conditions of science. The artist should be able to see in a drop of water, a blade of grass, or a twining tendril, beauty and spiritual meaning that the common vision can never discern or the average heart appreciate without his aid. His high aim must always be to see through phenomena into the essence out of which they spring. His thought must go from the attribute to the essential, from the appearance to the reality; but he can hope to do this only by first comprehending accurately the phenomena, the attribute, the appearance. Perhaps some may still think as it has been thought in the past that an art which thus has its root in science will afford no opportunity for the expression of individuality, since all artistic endeavor must be run in a common mold. The psychologist can have no fear of such a calamity if the artist courts the acquaintanceship of science, but he beholds rather innumerable situations in such proceedings for the display of personal thought and feeling. He sees that different minds interpret the same scientific data from varied points of view, and yet each being individual may at the same time be accurate and truthful. One person viewing the trees in a forest may calculate the amount of cord-wood therein; another may see an arboretum there, while still another may be impressed alone with the wonderful evidences of life and power, and with the marvelous adaptations of things to definite ends and purposes. All are scientific, but each is individual, for he has interpreted by that which is within his own personality. Truth for the one may not natively be truth for the other, but it may become so when art skilfully calls it forth from its secret places.

But while art is thus individual it is something more than mere self-expression, because it has a higher and more careful aim than the ofttimes unworthy one of simply making visible anything and everything which originates within. It is easy to perceive, of course, that what is expressed through art, if not exactly imitated, must be shaped and fashioned by the constitution and fabric of one's mind and heart; but there is some distinction between those products of expression that are wholly subjective, due solely to the stirrings of fancy, and those which are the results of a careful scrutiny of scientific data in order to discern in their connections realities no hint of which they give us in disparate form. In this latter type of art we indeed have the revelation of self, but have a version of universal truth as the outcome; while in expression that simply gives outward shape to the pictures of imagination we may have the most trivial and pernicious error as we doubtless also sometimes have the most sublime truth. It is here that the psychologist and the artist sometimes part company, for the latter attaches the mark of fundamental truth to all the operations of the imagination. He holds that this faculty apprehends spiritual realities intuitively, and so he regards all the children of fancy as messengers from the realms of wisdom; while so far as the psychologist can discern few great truths of any kind come out of the mind unless the elements, the ingredients thereof have been put in through the experience of sense. Not that truth goes forth from the mind in the exact manner in which it has been received, but it must have some foundation or suggestion in sense percepts; and then the soul viewing its data may weld distant things into unities and endow them with feeling, when indeed they become most worthy objects of the highest artistic expression. But the order is from observation to expression, from science to art, rarely if ever the reverse.

Thus far we have regarded art as interpretative merely, and have left ourselves but little space to speak of its creative aspects. The evident plan of the universe would not be consummated if man's spiritual activity was forever kept within the narrow confines of observation and interpretation. All life past and present tells the story of evolution, of progress from lower to higher things, at the summit of which is the mind of man that must have been fashioned in the likeness of the Creator of nature; and this endows him with the sublime privilege of participating in creation itself, of helping on the great struggle of the universe to ever show itself in more perfect forms. Man need not, perhaps cannot, always be content with nature as he finds her, even though in most of her parts she reveals marvelous beauty and perfection, which attributes doubtless always appear in her totality, her wholeness. But the fragment which is visible to the sight of each of us at any moment may not be perfect either in use or beauty; and the human soul beholding the imperfection may discern what nature was meant to be and what in its perfectness it would be. Nature may indeed locally and momentarily be ugly, but man's needs demand universality and permanence of beauty. Again, perhaps unhappily, she is not permanent in details, never final; no sooner does she reach perfection in any of her aspects than she returns rapidly again into decay and nothingness, to reappear in still other forms. So soon as the flower reaches consummation of beauty does it return back to earth to become the nutriment of others of its kind; and so the process goes endlessly on. But the soul of man must forever feel discontent in view of this incessant change; it must long for what is triumphantly good and beautiful regardless of the wreck of ages. Here we see the field for creation in art, to perfect and improve upon nature, to make everlasting those goods of the spirit that in nature are transitory and only hinted at.

But can this creation go on neglectful of what nature is? Or shall the artist by diligent research into the exact constitution of nature discover what she was intended to be, and then become a creator in supplying her deficiency? Creative art, it seems to the psychologist, should build upon what is by completing and perfecting it, should give not nature but what nature inspires; and taste as the trusted guide is seen to be only clear, deep insight into nature's eternal types born of close communion with her invisible forms. Taste leads the artist to complete harmonies and beauties which have been hinted at in the life around him and in his own mind and heart,—to fill in the large outline shown in the constitution of nature. The more thoroughly he appreciates the harmonies that already exist, and the more clearly he sees the outline, the more surely will taste guide his thought and feeling to create that which will contribute to the uplifting of the individual and the race. As Sir Joshua Reynolds says: "The beginning, the middle, and the end of everything that is valuable in taste, is comprised in the knowledge of what is truly nature; for whatever notions are not conformable to those of nature, or universal opinion, must be considered as more or less capricious."*

We should say of art here, then, as we have said of it before, that it is the complement of science, but is not independent of it. What science finds in its patient searchings art must accept as material to be wrought upon, fashioned and completed to satisfy the affections and aspirations of the soul. In this way art can never receive anything but good from science; like religion, it has nothing to fear from a most careful, reverent study of the expression of the divine in nature.

Now, finally, what shall be said to the educator who seeks to employ both science and art in the daily instruction of the young? Shall these branches go their own way, each independent of the other, as they have principally done in past years so far as they have had any attention at all? It may be pardonable to say here dogmatically that whatever else has come to stay in education the permanency of science is reasonably well assured. This "Cinderella, so long hidden in the chimney corner while her proud sisters displayed their tinsels in everybody's eyes" will not easily be obscured, now that she is at last revealed. In her effort to always be exact, to be definite, to show the perfect form and stature of things, to decipher parts and their relations to each other, to see the adaptation of structure to function,—in the effort to show these things science must ever have art in the forms of drawing, modeling, and painting as her willing handmaid. Art is here purely imitative, representative, and as a means of exact graphic expression may be of the most valued assistance to science, which it should always count a privilege to serve. Art is by no means debased but instead most signally distinguished when it is thus made the bearer of messages of truth to humanity; its proud name will not suffer dishonor, nor will it lose its æsthetic character by such service.

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*Bohn's Standard Library, Vol. 1, pp. 414-415.

But art instruction in our schools need not, must not, stop here. While it may indeed most profitably imitate nature in all her details, it may also interpret her by ignoring these very details and presenting her in her essential attributes. Details often cloud the sight for loftier visions, and interpretative art must sweep them away so that the glorious forms of truth may stand revealed. Nor is this too high or too broad an aim for our schools, nor yet impossible or impracticable when the basis for interpretation is laid in a deep, thorough knowledge of science in its broadest meaning. But without this first intimate acquaintanceship with nature interpretative art will interpret nothing but individual fancy, which may or may not (we fear the latter) embody truth in universal form. Finally, and most important of all, the school must provide opportunity for the development of the creative activity of the young, not at the beginning but before the end of their school days, when the pupil has felt the pulse of nature and knows her conditions, her plans and purposes, and when feelings for the welfare of humanity have throbbed in his breast and brain. There can be no creation worthy of the name until these conditions are in a measure realized; but when they are creative art may become distinctly social in its aim rather than personal, for then the individual comprehending truth as the peculiar fabric of his mind and heart give him insight may picture it forth and embody it in concrete form för the benefit of those who dwell with and who shall follow him.

M. V. O'SHEA.

Professor of the Science and Art of Education,
University of Wisconsin.

THE TEACHING OF MODERN LANGUAGES.

The problems involved in the study and teaching of languages, particularly the modern languages, present themselves to me in a somewhat different light from that in which Professor Cutting views them.* I claim to have studied the subject carefully, both from the standpoint of theory and of practice, without any preconceived notions as to what ought to be or can be accomplished. As it is natural for us to undervalue attainments we do not possess and to overestimate those we have made our own, or that have come to us in whatever way it may have been, it will not be amiss for me to give some preliminary data germane to the discussion that will help the reader to make such deductions for the personal equation as may seem to be necessary. It is strictly in accordance with the scientific method that the investigator who sets forth the results of his own experimentation should accompany them with such information as will enable the reader or hearer to form some judgment of his competence as to the matter in hand. Moreover, as it is rare to find a teacher who is equipped with extensive and accurate knowledge as well as with a high degree of pedagogical ability, a particular method, or a general mode of procedure, in the hands of one person will frequently yield more valuable results than some other that is intrinsically better. It is important to keep in mind two things: the ends to be aimed at and the means at our disposal for the attainment of those ends.

When a small boy, I acquired the German language from natives who had learned no other. Though somewhat tinged with dialectic peculiarities, it was the genuine article, wholly uncontaminated by foreign elements. While not the German of the purist, it was pure German. This juvenile acquisition I supplemented, after graduation from college, by some years of residence in different parts of Germany, paying careful attention to the local variations of the common tongue and endeavoring to make myself as familiar with it as was possible within the time at my disposal. Amid such surroundings and with the preparatory training I had had it required no great ability on my part to make German almost as familiar to me as my mother-tongue. Not many years after I had acquired a good degree of fluency with the German, I entered upon the study of French with the assistance of some natives, who, while they gave me little direct assistance, rendered valuable service in pronunciation during the most impressible years. Though I never gained a fluency in it equal to the German, nor were my ears fully attuned to its delicate shades of pronunciation, it has been a familiar language to me for many years, during which time I have used it almost daily for working purposes. While I retain very vivid impressions of toil undergone in the study of Latin and Greek, French has left few traces of this kind, and German scarcely any. It will throw some light on the value of a speaking knowledge of these languages when I say that in all this time I have neither in Canada nor in the United States met a single individual with whom it was necessary to use either of these languages in order to make myself understood, and I have no reason to believe that my experience has been exceptional.

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*Journal of Pedagogy for January, 1898, p. 23.

It is certainly wise, in the consideration of this problem, to take into account the probable career of the great majority of students. Usually the teacher in the high school and even the college has to choose between equipping his pupils with a limited facility in speaking or a considerable facility in reading, supposing him to be equally competent to do either. Admitting that learners may be taught to converse with some ease upon a limited range of topics with one or two teachers, they have overcome but a small portion of the difficulty before them. When they go among people where the language is in its native habitat, where the users do not speak with the distinctness or correctness of the teacher, they find at once that their new acquisition is worth much less practically than they had supposed. The Germans are proud of their home dialect and rarely show any desire to conceal their shibboleth. Even the university professors take a sort of delight in manifesting in this way their fidelity to the place of their birth. Persons who have never passed beyond the boundaries of the United States have but a faint idea of the different varieties of English one can hear in so small a country as Great Britain. Even in London it is sometimes hard for people to understand the language they have spoken all their lives.

When an intelligently directed person enters upon the study of a foreign language, he faces the problem before him from one of three points of view, which we may call respectively the verbal, the literary, and the practical: though to place one of these in the foreground is not to ignore entirely the other two. The two former are objective, the latter subjective. In the verbal study of a language the chief stress is laid on the individual words. These are dissected, analyzed, and investigated in order to get from them not only their signification in any particular author, but also their past history, both formal and psychic. Every word used by a writer or speaker embodies both a conscious and unconscious element. The conscious element is the signification he gives to the word in every case where he uses it; the unconscious is the history lying behind the word. Regarded from the latter point of view many modern scholars know more Greek than Plato; more Latin than Horace; more German than Goethe or Schiller. Just as a mechanic may be able to manipulate skillfully the most intricately constructed machine, yet not be able to fabricate a single piece that enters into its construction, so an artist in speech may produce the most wonderful effects with words without knowing anything whatever of their history or etymology.

To pursue the study of a language in this way is comparatively easy. It requires no great ability and not much knowledge to begin with. It is usually the method of the plodder and the pedant. Yet it cannot be denied that a great deal of interesting information may be thus elicited. The history of a word often throws much light on the development of the ethnic mind, as well as on that of the civilization of an entire people. This method is much in vogue. Most of our foreign classics and even our older English authors are generally annotated as if the thought of the writers were in the separate words and not in the sentence. In the literary study of a language the historical element plays a small part. We simply place ourselves as nearly as we can at the standpoint of the writer or speaker. It is not necessary to be thoroughly versed in the grammar or the history of a foreign tongue to be able to read it with profit; nor does the sense, in general, suffer any detriment if the student cannot pronounce correctly a single word. Every progressive student of any of the sciences wants to know at first hand what his confrères are doing, without waiting for a translation. The same statement holds true in a large measure in the department of belles lettres. It is well known, too, that much is written that well repays perusal that is never translated. In the third place, we may want to be able to "read, write, and speak" a foreign language, to use a phrase so frequently found in the prospectuses of correspondence schools. The acquisition of a language in this subjective way, the training of our linguistic powers so that they will respond readily and accurately to the call of the will, is a task of almost infinite difficulty. It may be well to recall here what Hamerton says on the study of foreign languages:

1. Whenever a foreign language is perfectly acquired there are peculiar family conditions. The person has either married a person of another nation, or is of mixed blood.

2. When a foreign language has been acquired (there are instances of this,) in quite absolute perfection, there is always

some loss in the native tongue. Either the native tongue is not spoken correctly, or it is not spoken with perfect ease.

3. A man sometimes speaks two languages correctly—his father's and his mother's, or his own and his wife's—but never three.

4. Children can speak several languages exactly like natives, but in succession, never simultaneously. They forget the first in acquiring the second, and so on.

5. A language cannot be learned by an adult without five years' residence in the country where it is spoken, and without habits of close observation a residence of twenty years is insufficient.

I question whether there is any branch of instruction upon which more misapprehension prevails than upon the one we are here considering. The difficulty of the task is almost always underestimated. The language of every civilized people is like an immense workshop filled with all sorts and every variety of tools. No workman can use them all, while many are from time to time superseded by others that answer the purpose better. In like manner, the child or the illiterate peasant is able to use but a small portion of the tools of speech, while myriad-minded men like Shakespeare, or Hugo, or Goethe can employ an almost infinite number. As the child's thoughts and experiences widen and deepen, its vocabulary increases in a continuous ratio until with advancing age the man again reverts, at least in many cases, to the familiar phrases and words of childhood. To a large extent, the experience of the race corresponds with that of the individual, except that the period of decline does not necessarily supervene. As the child and the youth learns and then gradually discards familiar locutions, so the race outgrows, in a measure, its vocabulary and takes up new terms to express new thoughts or to label the added knowledge that accrues with advancing years. Our dictionaries and older writers conserve the great mass of material with which the original stock has been incrusted, but much of it has only an antiquarian interest. Just as the fossil remains, buried beneath the earth's crust, represent forms once instinct with life but which are now represented by widely different varieties, so words and locutions often take us back to a time when man's mental activity moved within a much narrower circle than it does at present; for

"The thoughts of men are widened with the process of the suns."

Notwithstanding the widespread misapprehension as to the difficulty of learning a modern language thoroughly, there is no branch of instruction upon which it is easier to get light. There is hardly a community in which there are not persons who speak at least English and German. If the former has not been learned in childhood and simultaneous with the latter, it is almost never spoken purely. Yet in spite of this evidence, it is commonly assumed that a man may acquire an easy familiarity with an indefinite number of languages. It is true, indeed, that it is not unusual to find persons who speak several languages, within certain limits, generally for commercial purposes, with considerable facility, but this is far from knowing them with any degree of thoroughness. A good many persons are able to write grammatically several languages and seem to do so with ease, but they always pronounce most of them very badly. And it is a matter of common experience with teachers to have pupils under their instruction who, though by no means devoid of parts, are unable, for their lives, to pronounce correctly three times in succession, any sound not in their own mother-tongue. As we sometimes hear it said of persons that they are color-blind, so we may also speak of others as being sound-deaf. But the latter class is much more numerous than the former.

It is pertinent to this general question whether we do not habitually make too great a distinction between what are called "living" and what are called "dead" languages. We read the Satires of Horace and familiarize ourselves with his vocabulary. We take up those of Juvenal and find that it is no longer the same. Whether we assume a deterioration in the language or a growth, or attribute the difference to the intellectual inferiority of the later author, we are conscious of a divergence. In a sense the Latin has outgrown its former self. If now we take up a French or a German author of a century ago and compare him with one of to-day who writes upon the same subject we find a similar diversity. Or let us take a French author who wrote in the seventeenth century and compare him with one of the eighteenth. We find a similar divergence in vocabulary and style. What can it matter to the student that the Latin language was spoken some centuries after the year 100 or that the French is still in practical use and that its development has gone on from 1,650 to the present day? We teach sixteenth century French and German and English with the pronunciation of the twentieth, either in ignorance of the real state of the case or on the assumption that the orthoëpy of these languages is of little importance. It is no more difficult for the teacher to use in the class room all the Latin his pupils can understand than it is German or French; and for the great majority, the ancient language is about as likely to be spoken as the French. Those who attend the services of the Catholic church will probably get as much intellectual profit from the one as from the other. To most persons in the United States, French is to all intents and purposes a dead language. Like the Latin it is a sort of mirror in which men's thoughts may be seen reflected, but there is no more life in it than in the image. It is a mere photograph or a painting, and no matter how true to nature, it is not the living object. The same statement is true though in a less degree of the German. Only to him is language living who sees it clothed in flesh and blood, as it were; or rather, who hears it as it falls living and breathing from the lips of the speaker and carrying with it the impress of his personality. It is only living to him who is in position to note all the idiosyncrasies of each separate speaker who uses it. It is alive in the fullest sense in its native habitat where one may note what each individual adds to it or omits from it. To hear a language used by a single person is hardly more than a specimen brick from a building constructed of many thousand others more or less like it, but from any one of which a very inadequate conception of the building could be obtained. When we speak a language with constant reference to the deficiencies of our auditors we are never at ease; we are compelled to use only a limited vocabulary, to avoid the use of those metaphors, idiomatic and proverbial expressions that contribute so much to the picturesqueness of human speech. I have often been highly entertained with the peculiar imagery of the peasant as depicted in his homely phraseology.

Modern Greeks and Philhellenes would have us study the language of Plato and Xenophon by the light of the spoken tongue of to-day. It is true their contention has not found many supporters outside of Greece; yet if the ability to speak a language contributes very greatly to its comprehension they are right. The fact is we are in a large measure dealing with dead languages when we read books. It is probable that a good many Englishmen could understand Shakespeare if he were alive to-day, but it is certain that the number of Americans who could do so is very limited. Many of his words no longer have their sixteenth century meaning, while a much larger number are differently pronounced. Yet we imagine that Shakespeare and Luther did not use a language that is virtually dead to us simply because English and German in some form are still spoken, but we assume that Horace and Juvenal are representatives of a dead language because Latin, for general purposes, has gone out of use.

In one of the books of the late Professor Drummond I find the following: "The most popular book in the English tongue at the present time, except the Bible, is one of Dickens's works, the Pickwick Papers. It is largely written in the language of London street-life, and experts assure us that in fifty years it will be unintelligible to the average English reader." This may be putting the case somewhat strongly, but that the statement is true in the main no competent judge will deny.

After careful consideration of the whole subject combined with many years' experience and the frequent comparing of notes with fellow-teachers I am constrained to believe that the ends to be aimed at by the great majority of instructors ought to be about the following: If they have about two hundred hours at their disposal, they can take their pupils over several hundred pages of choice reading matter and enable them to understand ordinary prose in almost any of the modern languages, with some degree of ease and pleasure. The teacher can so ground them in the rules of orthoëpy that they will pronounce with a fair degree of correctness all words that are not to be classed as exceptions. In this time students may also be taught to write easy prose without glaring errors. A good deal of written work is almost essential to insure accuracy.

I am aware, of course, that mere experience counts for little. Practice does not necessarily make perfect; it sometimes make a routine more and more lifeless the longer it is persisted in. Besides, whether an ounce of practice is worth a pound of theory, as is commonly believed, depends almost entirely on those who formulate the theory no less than upon those who have had the practice. My own experience may have little value, and my sole reason for recording its results here is that it has led me to conclusions that have been honestly formed and which are not the result of any preconceived theory. Having attained all that is conceded above we are still very far from a speaking knowledge of a language. This is an accomplishment in disparagement of which I should be sorry to utter a word. Any one who knows several languages with varying degrees of proficiency is constantly reminded of the enormous increase of power he possesses in those with which he is colloquially familiar. But I contend that such familiarity, to be really valuable, must be gained in foreign countries. German professors frequently express surprise at the rapidity with which young Americans learn to understand their lectures. There is, however, a vast difference between hearing a language part of an hour each day and hearing it several hours. The comparatively few students who are genuinely interested in gaining something approaching a mastery of a foreign tongue will not begrudge the time and the expense or the acerbities of an ocean voyage in quest of this accomplishment. A case has recently come under my notice which shows what an ambitious young fellow can do. A friend of mine who had acquired a fair reading knowledge of German and was able to understand short sentences when distinctly spoken, went to a German university town. Here he employed the best private tutor he could find. This man spent two hours a day with him and assigned work enough to keep him employed six or eight hours more. At the end of six weeks the young man had not only learned to speak German with some degree of ease but was able to understand the lectures at the university which he then entered, though he found it necessary to sit close to the speaker. I do not hesitate to affirm that several months of well-directed effort in a foreign country is more fruitful in results than years spent under circumstances where about the only person who uses the foreign language is the teacher. How interesting to the student of Middle High German to hear the Swabians of to-day use a phonetic system that has remained substantially unchanged for six hundred years. Half a score of years ago and less teachers of languages were led to believe that their pupils ought to do little or no translating; that they ought to be taught from the start to comprehend what is said to them in the foreign idiom as well as to think in it. This is a captivating theory, but one which in practice does not seem to have maintained its ground. It has been found that the method encourages nebulous thinking, however admirable it may be when the subjects treated are of the most commonplace kind. Is there a teacher who does not know what splendid intellectual drill it is to translate from a foreign into the native idiom without carrying any traces of the one into the other? The fact that we have so few good translations is the best evidence of the difficulty of the task. And while the learner cannot be expected to attain perfect accuracy even in many individual words, the effort is well worth his while. He will soon find that however skillful he may be in turning the foreign idiom into his mother-tongue there will always remain a residuum to the perfect rendering of which he can only approximate. Few of us, I fear, are aware of the detriment our youth receive from the slovenly habits of translation into which they are allowed to fall in the class-room.

One of the great advantages, perhaps the greatest of all that arises from the careful study of a foreign language, is the discovery that many terms and locutions cannot be turned into any other language at all without largely obscuring their peculiar force and distorting their imagery. Even where perfect accuracy in translation is possible there are always several ways in which it may be done, and the judgment of the student is exercised in the effort to make the most judicious selection. So arduous is the work of translation and so rarely has it been well done that the Italian proverb which makes the translator synonymous with traducer is not far wide of the mark. If it were in all cases possible to translate with absolute exactness from one idiom into another as easy as it is to turn *horse* into *cheval* or *caballo* or *equus*, and so on, it is a question whether it would not be wiser to have the work done by experts and to put our learners at conning the results of their labors. But for the very reason that every people has an ethnic psychology that is exclusively its own and of which language is the visible and audible expression, we must study this if we would get a real insight into its inner life. Uhland well describes this fact in the following couplet:

> "*Indes Gelehrte walten, bestimmen und gestalten, der Sprache Form und Zier,*
>
> *So scharffest du inwendig, thatkräftig und lebendig, gesammtes Volk an ihr.*"

The ability to translate, or rather the effort to translate accurately, has another advantage that is well worthy of careful consideration; it requires the knowledge of two languages.

We are in constant danger in the study of a foreign tongue of corrupting our own. We all know people who are in the habit of interlarding their English with words and phrases that are out of place. Nor is the temptation small, to drop in an un-English word or idiom, if for the nonce it seems more convenient or more expressive. Schiller made the observation on himself that his German suffered when he became deeply absorbed in a foreign tongue. There is hardly any doubt that the chief reason why the Germans for centuries wrote their own language so clumsily was the preponderating influence of Latin and Greek in their higher education. There is not here a question of Carlylese or Browningese where the writer coins words to express thoughts that no one ever had before him, or that he at least thinks are wholly new, but of interlarding one's English with words and locutions that are distinctively foreign and known to be so.

Surely no one thinks that the ability to read a foreign tongue is a trivial accomplishment. To be in position to comprehend what another nation thinks and to be able to understand the manner in which its thoughts are expressed, even on the printed page, cannot but yield great intellectual profit. It is by means of the cold type that we can put ourselves in communication with the vast array of great men and women who have shaped the destiny of the world in the past as well as with those who are shaping it in the present. A taste for literature is cultivated by reading. It is thus that persons of comparatively little systematic education to begin with, have learned to distinguish what is ephemeral from what is permanent; what is good from what is inferior. We not unfrequently meet with persons who know little of the niceties of grammar and rhetoric, but who nevertheless, by a sort of instinct, have a keen discernment of those qualities that distinguish the master minds in thought, imagination, and diction. It is with literature as with music. Many people who know nothing of the rules of counterpoint have a nice appreciation of what is most expressive in the harmony of musical tones, and turn with aversion from everything that falls below a high standard of excellence. We do not need to be admitted behind the scenes or to be told how striking stage effects are produced to feel their appositeness.

Few great writers could themselves, I imagine, let us into the influence they exercise over the minds of men. It is what Goethe calls a demoniacal power because it can be fathomed neither by the reason nor the intellect. Poe is, if I mistake not, the only author of conspicuous ability who has taken the public sufficiently into his confidence to explain the genesis of one of his master pieces. When he has done we can almost hear him exclaim: "I have divulged the motive and method of one of my greatest poems. You who think you can do as well now know how to proceed." But nobody seems to have accepted his challenge—nobody, certainly, has been equally successful in the treatment of a similar theme. We hear two men discourse on the same subject. Apparently they say about the same thing, yet the words of the one leave us cold and indifferent, while the other fills us with delight or excites our emotions to the highest degree. What Socrates discovered many years ago still remains true. He tells us that he went to the poets—tragic, dithyrambic, and all sorts,—in order, if possible, to find out the mystery of their craft. Then he continues: "Will you believe me? I am almost ashamed to confess the truth, but I must say that there is hardly a person present who would not have talked better about their poetry than they did themselves. Then I knew that not by wisdom do poets write poetry, but by a sort of genius and inspiration; they are like divines or soothsayers who also say many fine things, but do not understand the meaning of them."

If then we are in a measure compelled to choose between the lower and the higher, between the commonplace and the artistic, between the popular and the literary, it ought not to be hard to make the decision. And this is the dilemma in which the teacher and the student find themselves nine cases out of ten, or oftener. I yield to no man in the high estimate

I place upon the value of a speaking knowledge of a language, and I am heartily in accord with Professor Cutting in his protest against lugging into ordinary language instruction with beginners anything that does not contribute directly to a knowledge of the language in hand. But we need to keep in mind the limitations of human intellect and the shortness of school life.

We can easily learn to take in knowledge through the medium of many tongues, but it can rarely flow out in its fullest vigor and rarest beauty through more than one. History tells of a number of persons who spoke many tongues, but of how few do we know who wrote in more than one anything posterity cared to remember? The scholars of the Renaissance, in spite of their enthusiastic devotion to Latin, are almost unknown except to special students. They tried to do in another sphere what we endeavor to do when we lay much stress on the acquisition of a foreign tongue, except for purposes of information. It is well-nigh impossible for us to divide our psychic life as it finds expression through the medium of speech without weakening it. It is often profitable to learn what is said in other tongues, but when this knowledge has been transmuted in the alembic of our inner life it must flow forth if its current is to be clear and beautiful by the well-worn channel of our mother-tongue.

Summing up, then, the points on which I would lay the chief stress in this somewhat fragmentary discussion of a large subject, they are about as follows:

The teacher of a foreign tongue ought to give special heed to the written rather than the spoken language.

It is unwise to create the impression that any language can be well learned except on its native soil. Those who wish to speak it should go abroad.

In the study and teaching of a foreign language constant care should be exercised that the native idiom receive no detriment. In order to guard against danger in this direction as well as against loose thinking, the teacher should require frequent and careful translations.

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THE STUDY OF BOTANY IN HIGH SCHOOLS.

It is to be hoped that we may consider our present methods of preliminary education as representing a transitional stage. Certainly we are about as far from an ideal condition as possible. The tendency of much of the current primary and secondary education is to close the eyes of children to the most natural sources of information and the most stimulating methods of inducing thought and methods of thinking.

If the efforts of those interested in extending nature studies in the New York primary schools are coupled with a wise movement on the part of the Regents to modify or abandon their goad of "Preliminary Examinations," we may hope, in the next generation of children, for a body of young people to whom all the avenues of outside information have not been closed and whose eyes are not covered with the scales of medievalism. Instead of the tedium of partial payments and the intricacies of square and cube root, in place of the verbal memory of latitudes, longitudes, and needless names of capes and capitals, and in place of the useless minutiæ of syntax, we shall have, next to good literature and plenty of it, which is fundamental in a thorough English education, an abundance of stimulating study of matter and material forces, of rocks and streams, of plants, and other living things. In that happy day, should it ever come, our children will go to their fund of experience for their "compositions" where they now go to the encyclopedia as mere copyists, and fail to get even a good mental gymnastic in their labor of selection and condensation.

What we shall say, then, in regard to botany in the high schools will be said for the present grade of pupils; pupils in whom every tendency to get at the heart of nature and into harmony with it has been checked, at home because such studies tend to "litter up the house," and in school because the preparation for regents' examinations requires all the energy of already overworked teachers. Well has one of my honored instructors said of the fate of a boy who was longing to see how an insect was put together and thus get at some of nature's secrets—"he was doomed to dissect a verb, to graduate a grammarian, and to die a clodhopper."

What we shall say, then, it is hoped, may apply to boys and girls whose eyes are sealed to the methods of nature, whose eyes are not trained to see, whose hands are not trained to outline what they see, and whose minds are unaccustomed to draw conclusions from what they have seen; in short, the ordinary class of boys and girls in the high school, and the same class, still more scale-covered and nature-hardened, that are too often sent to us as freshmen in our colleges.

In considering scientific teaching in our secondary schools we must also realize fully the nature of the problem we are called upon to undertake. Perhaps 85 per cent. of the pupils of the high schools end their school education with the completion of its course of study. Of the 15 per cent. who pursue their studies further in college, less than one in twenty will pursue the subject of botany or allied subjects. While a high school course may succeed once in a while in developing the botanist in a boy or girl—for botanists like poets are born, not made—the course ought to be adapted primarily to the needs of the many whose eyes, mayhap, will otherwise never be opened to a rational conception of nature. To enable this class of boys and girls to observe the plants about them, to form just conclusions from the data the plants furnish them, and to have some true conception of the relations and significance of forces and problems of every day occurrence, these would seem to furnish the reasons for science teaching in our secondary schools. The problem is not to develop botanists but to develop rational thinking men and women, in short, good citizens. If there is a latent botanist buried in a boy, so much the better for the science; this method will surely bring him to the front and such a one should be specially encouraged.

One great difficulty experienced in the high school is the fact that the course is already over-crowded. This being true, let us throw out some of the subjects and try to *do well* a few things rather than confuse the minds of pupils with the superficialities of the many. We will suppose that children have been instructed in human anatomy and ordinary hygiene in the grammar schools, and that a rational study of elementary physiography has taken the place of memorizing the capitals of Dahomey and Timbuctoo and the exact latitude and longitude of the Andaman and Mascarene Islands; such principles of geology can be combined with this as will convey a rational idea of that subject so that geology as a special study may be omitted from the high school course. A few general conversations on astronomy will give a rational, *i. e.*, an evolutionary, conception of the solar and stellar universe, and a night or two spent in tracing the stars will give the conversation a fund of illustration and a new meaning. A similar course may be adopted for the general principles of chemistry, wisely illustrated by a few significant experiments which involve a principle rather than an explosion, and a practical bearing rather than a flash of colored light. Zoölogy, except as it is incidentally used for illustration and side light in the study of plants, can well be relegated to the schools of higher grade, since nature study among plants is both more simple and more fundamental than similar study among animals. This would reduce the required science subjects of the high school course to one physical science, which would naturally be molar and molecular physics, and one biological science, which would as naturally be botany. These for a year each in a three or four years' course of study ought not to be excessive and would leave room in the high school for a thorough course in German, which, to be most effective, really ought to commence in a lower grade, say with pupils of ten or eleven years.

Largely through the influence of a single well known university, we have had in the past a one-sided development in all our schools of a so-called biology, which has been a course in zoölogy under a new name, and with greater or less importance attached to the more fundamental principles involved in the biology of plants. Like all such plays of Hamlet, with Hamlet omitted, this style of instruction, useful as it has been, has not proved advantageous to beginners, and we are coming now to grasp the subject with a truer perspective, and the biology of plants is felt to be the rational approach to the study of the biology of animal life.

With the understanding then that laboratory subjects in the high school may be reduced in number so as to make them more intensive we should say that there should be for botany a maximum of field and laboratory work. This can then be made possible without unduly holding pupils at unreasonable hours and give the pupils as a minimum not less than two two-hour sessions per week, besides two forty-minute periods for lecture, summary, and quiz.

The laboratory course should be arranged so that the true perspective of an object shall not be lost in the manipulation. It is the practice of many teachers to commence with *Pleurococcus*, or yeast, or the cell and its contents, and all this necessitates bringing a pupil whose natural eyesight is still dim from scholastic scales, at once into the use of the high powers of a compound microscope. The result is, his bearings are utterly lost and he flounders about because the transition is too abrupt and he cannot appreciate the realities of his suddenly enlarged vision. I have seen students who have used a microscope for two years or more who, when asked how large a field they were looking at, could give no reasonable estimate. It would seem that the course of evolution in the training of beginning students in laboratory botany would suggest some such line of procedure as the following:

1. Train the pupil to open his eyes and see as much as possible without *any* aid. In time he can be brought to see as much alone as many eyes ever come to see with a magnifier. A student who does not learn to use his unaided eyes well, may, with the aid of his instructor, prepare an extended thesis on

chromatin, but he can never become a botanist, much less a well-balanced citizen.

2. Train him next to the use of a simple lens and manipulation with a dissecting microscope. Careful training of the fingers in the use of dissecting needles here will prove most valuable in all his further work. In some schools, possibly, the equipment may stop here though there is no reason why it should. In any case, the simple dissecting instruments of the Barnes pattern, but with higher blocks, are much more satisfactory than the more elaborate brass ones which cost from five to ten times as much, and for beginners are not half so satisfactory.

3. The general optical principles of the compound microscope should next be explained and such preliminary work with the instrument should be given as will require only the use of a low power objective (say a Leitz 3 or its equivalent). Early in his work have the pupil measure approximately the diameter of his field and calculate its area. This will give him a unit of measure and he will become unconsciously accustomed to know the approximate size of every object he examines in the field of his microscope, without a micrometer, and will thus hold his grip on the true relations of his object. At this point, the effect of increasing the draw tube length or of additional eye pieces on the size of the field andon the magnification of the object can be introduced with advantage.

4. Finally use the high power (Leitz 7 or its equivalent) and determine as before the diameter and the area of the field. The more accurate methods of micrometer measurements may follow later.

Right here a word in regard to instruments. For beginners, the simpler the apparatus the better. It is the best economy to buy a high grade stand and few accessories and to place before the pupil a minimum of reagents. I call attention to these things because I know the idea prevails in many places that all the complexities of microscopy are necessary for rational work, and the result of such a course is that beginners are confused by multiplicity of details. Pardon here a per-

personal reminiscence. I was once placed in a laboratory that had been splendidly equipped. In fact it was over-equipped when the accessory conditions were properly taken into account. I was expected to give instruction to laboratory students who had already had about a year and a half of botanical work. The laboratory in which these beginners had worked was equipped with two classes of instruments. (1) Elaborate Zeiss microscopes with full batteries of apochromatics and all the paraphernalia of sub-stage double back ·action diaphrams for all the intricacies of oblique illumination, and (2) A set of dissecting microscopes consisting simply of watch-maker's eye-glasses of short focus which the students were expected to hold in the eye like a monocled jeweler while carrying on their dissections. The boys came to me equipped in all the details of permanent mounting media, the intricacies of self-centering turn-tables, and could produce immaculate slides double stained and ringed with all the colors of the spectrum at once, but when I asked them to prepare a simple practical dissection under a magnifier and arrange it as a simple water mount, they had "never *done that*" and the matter was simply beyond their depth. While the tables in the laboratory in which they had worked a year or more were crowded with an array of fixing, staining and mounting media that would have satisfied the demands of a specialist in cytology, they had not even learned the use of such a simple as potash as a clearing reagent! Such laboratory work and such an equipment is not only an unnecessary outlay of public funds but an outrage on the students who are thus defrauded of a proper education by being trained to use a microscope as an end instead of a means.

But laboratory study unfortunately means, too often, a study of simple structure and morphology. We must make it mean more. We have worked the morphological side too exclusively, and the perspective resulting from this system of instruction is about as faulty as though any other single line had been too exclusively cultivated. The closet botanists who pored over herbarium specimens and drew their conclusions from dried material have been laughed at by some of the younger generation some of whom know even less than their botanical parents, having worked at *embalmed* material only. One class becomes just as narrow as the other, and neither one nor the other has struck at the root of the matter. Instead of studying dry dead material alone or embalmed material alone, both of which are equally important in their way, we must study living plants that move and feel and almost reason. We must teach botany as a biological study and as an introduction to the greater study of life in general. Plant physiology, and especially that department that has recently been given the name of ecology, should form a prominent feature of elementary botany. As Charles Darwin's old gardener said: "Mr. Darwin was always working with his plants, making them *do* things." That is the spirit in which the high school teacher ought to go at the subject, to make plants do something, to have his pupils see what they do and interpret their doings.

Again, the study of botany ought to be made more than the study of one familiar corner of the subject. Botany is more than the description of a few flowering plants based on the study of tips and shoots that are easily within reach. It is a science involving the evolution of the plant world and even in elementary courses should involve the simpler as well as the more complex elements of that evolution. There is no reason why our boys and girls should be shut away from a knowledge of common lichens, mushrooms, leaf-spot fungi, rusts and mildews, from *Oscillaria* and pond scums, from water-nets and hepatics, from mosses and fern prothallia, all because some misinformed text-book writer has told their teacher that such things cannot be studied at all except with a compound microscope, when there are many, many things that can be learned from any of them with even a hand lens! There must be, too, the stimulation of the study of these things as well as the higher plants in the fields and woods where pupils can be brought face to face with Nature at a time when they are most susceptible to its influence and when they can more easily be placed in harmony with its teachings. If the teacher is a learner so much the better, for I pity sincerely a teacher, no matter how long experienced, who can go out on an afternoon excursion without getting something new to his own experience. Some will object that it is difficult to get classes out in the woods, but good ground for field work is now accessible to cities of any size, with a minimum of effort. And right at this point let me say that the teacher who thinks botany can only be taught in the spring is a remnant of a past age, for those who know nothing about nature in that other half of the year, after the last golden rod has faded and before the arbutus and the hepaticas have awakened into beauty, has only half learned his lesson and should be sent to the woods in winter to study plant life anew. Besides the lessons taught by the lower plants, many of which can better be studied in the fields from late October to early May, the higher plants present at this season the other side of their nature and the side too that has escaped the notice of too many of our teachers.

But neither the laboratory idea nor the field excursions must be overworked. A pupil cannot obtain the highest and most complete understanding of a subject exclusively through the medium of inductive work. There must be a careful presentation of the true relations of the subject on the part of the teacher to clarify and systematize the ideas of the pupils. The laboratory is a means, not an end; it fulfills its true mission when it supplements for the student and furnishes opportunity for testing his conclusions as well as for originating ideas.

The instruction on the part of the teacher should be based on the evolution of plant structures and should accentuate the points studied in field and laboratory and connect them in a comprehensive whole. The teacher must have at hand a fund of illustration that can be derived only from a thorough familiarity with plants, and he ought also to be able to draw illustrations from animal life, for certain principles can be illustrated more satisfactorily than from plants. The significance of lower and higher plants and their evolution and general relationships should be clearly brought out, as well as the relations of plants to animals and the common characters of living things. A teacher of botany who is not fairly familiar with the principles involved in animal life is in a sorry condition to teach his subject, but a zoölogist who announces himself as a teacher of biology without a thorough fundamental knowledge of plants is in a still more sorry plight. If a text-book that claims to be a standard continues to teach a false idea of evolution by sandwiching the pines between the roses and the lilies, the teacher should be able to contradict the false teaching and present the relationships in their true light. If some of the text-books still teach that "the flower parts are sex organs" and "pollen is the male reproductive cell," the teacher should be able to correct this Linnæan conception and present a correct homology of the plant structures as we really know them to-day.

As to text-books, the pupil ordinarily should have none; his teacher should be his text. The teacher should have access to many, and his copy of such books as Kerner von Marilaun and Bailey's *Survival of the Unlike* should be well thumbed. A teacher who can find in any single laboratory guide or text-book a solace for all his woes and a panacea for all his troubles may be set down at once as a poor teacher. The real teacher will select from the many and supplement from his own resources according to his necessities.

But what does all this mean? It means the better preparation of the secondary teacher for his work. A high school board would not think of employing a teacher of Latin who had not pursued the subject for from four to six years of consecutive study in academy and college. The man who is expected to teach mathematics in an academy is one who commenced number lessons at six and graduated with higher calculus behind him at twenty-two or twenty-four and gave more or less consecutive thought to mathematics through all those years. Is it rational to expect a man to teach botany or other of the natural sciences with any less preparation? I believe we are on the eve of an extensive turning to science work in our schools, and that means a more extensive preparation for science teachers in the direction of graduate study such as is now furnished in botany at a dozen or more of our universities.

Twenty-three years ago, when I was a college boy, there were three colleges in the country where there was a distinctive professor in botany, and none of them offered more than a year of work. Now there are over sixty and only in some of the old strongholds of effete classicism can one fail to get a fairly good preliminary course in botany. This must be supplemented by graduate work that will educate in a specialty without dwindling the candidate to a narrow conception of his subject. This means further that a man or woman who teaches botany or physics, not both, has just as full work as the one who teaches Latin, German or mathematics. In colleges, the "professor of natural sciences" has gone to the wall and in the evolution of the curriculum the differentiation of the various physical and biological sciences has come to the front. There is the same necessity now for the secondary schools and with the concentration suggested in fewer lines of work, there would be sufficient time to be given to a single subject to require the full attention of the teacher during school hours and, relieved of other subjects, he could become an investigator in his own specialty and so the better keep in touch with the advance of his science.

This means further that there must be provision for laboratories in high school buildings and that the time for laboratory instruction must be correlated with other subjects so as to form a convenient and consecutive period for teacher and pupil. It means further that the Regent's system of examinations in botany must be carried out on a wholly different plan—or better, entirely abolished—or it will have the effect of making teachers into machines or driving them into insanity. There must be latitude in teaching botany; the local conditions, season, and other things will enter into the work laid out by the individual teacher and no universal system of examination can possibly be just to all.

And what shall be said of the subject being required of all? After twenty years of experience in teaching botany I should say that there are a few for whom it seems to be a useless task to undertake the subject; there are some youth of both sexes, the perceptive part of whose crania are so flat in proportion to the reflective, that while bright or even brilliant in some subjects, they are not mentally fitted for science work. Such fit well into the old cast-iron scholastic lines of education that used to fashion men in a common mold; such may well count themselves as members of that diminishing minority who assume to themselves a sort of sacredness of culture and think themselves to possess a monopoly of "serenity and sanity of thought." I believe there are pupils of this type who may properly be allowed to substitute other subjects for natural science and thus save themselves and their teachers from a hopeless struggle with pre-natal inheritances.

To summarize and accentuate the main points of this brief discussion we would conclude:

1. That not more than two laboratory sciences should be attempted in high schools, one to be a physical science, and the other a biological, preferably botany.
2. Instruction should be given in not less than two two-hour periods per week, with two forty-minute periods for lectures or summary, supplemented by field work.
3. In the instruction, while morphology should not be neglected, plants should be primarily studied as living things, and physiology, especially ecology, should be made a prominent feature.
4. The instruction should cover types of the entire range of plant life, and evolution should be the central idea about which the work should cluster.
5. The teacher if in larger schools should be employed to teach a single subject and the hours for laboratory work should be given a just and equitable position with non-laboratory subjects.

COLUMBIA UNIVERSITY. LUCIEN M. UNDERWOOD.

NEW BOOKS.

Widely variant views as to the function of an editor of school and college texts are exemplified in two recent issues of Henry Holt & Company. In *Selections from Browning*, Mr. Mason has brought together fairly representative short poems; he has supplied an introduction in the reprint of a chapter from Stedman's *Victorian Poets*, and he has done nothing more. For a moment one is divided between surprise and relief that, to such an extent, Browning has an open field: later he may, in view of the accessibility of Stedman's book, and of the many inexpensive but respectable collections from Browning, doubt the *raison d'être* of yet another. Fortunately we are not driven to choose between such unbroken silence and the too common interruptions of an obtrusive annotator: editing there is which profiteth much. The *Selections from the Prose Writings of Matthew Arnold*, edited by Lewis E. Gates, opens with an introduction which, in its fair putting of both sides of a question, should inspire that very openness of mind so praised by Arnold. A brief chronology of Arnold's life, a selective bibliography, and notes upon the selections, give both information immediately needed and guidance in further study. In 294 pages occupied by the selections themselves, Professor Gates has gathered portions of Arnold's prose that present his style and "what is most characteristic in . . . [his] criticism of literature and life." After finding the plan of the book, one returns to the introduction; he cannot leave it with merely a cursory glance. His thought is held, not only by the editor's happiness of phrase, but by his critical acumen and sympathy. Mr. Gates points out that Arnold's view of criticism as "the method by which the perfect type of human nature is . . . to be apprehended and kept. before the popular inagination," justifies his dictum that "poetry is a criticism of life." He points out "that the limitations of . . . [Arnold's] style and method are largely due to the strenuousness of his moral purpose", and that "he is not the ideal literary critic because he is so much more, and because his interests lie so decisively outside of art". The last selection, entitled "Relation to His Times", is of special helpfulness and significance.

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An important contribution to the working facilities of teachers and a stimulating guide to students is to be noted in Henry S. Pancoast's recent book, ***An Introduction to American Literature.*** Mr. Pancoast is already well known to us by his able ***Introduction to English Literature*** and ***Representative English Literature,*** both of which works show him to be well qualified for this present undertaking. The book is carried out on much the same plan as ***An Introduction to English Literature,*** and may, as the author states, be used as a companion book to it. He, has treated the development of American literature under three heads: (1) The

Colonial Period, 1607–1765; (2) The Establishment of Nationality; 1765–1815; and (3) The Literature of the Republic, 1809–1897. He has added study lists, and a most valuable chronological table in which are compared the history and literature of both England and America. In this survey of the field Mr. Pancoast has fulfilled the promise of his preface, in which he says:

"I have tried to present our literary history in its true relation to the history of our people, and to make two points especially clear: first, that our literature is, in its origin, a branch of that of England, and that its relation to the mother literature and its gradual divergence from it must be constantly kept in view: second, that our literature springing up originally in separate English colonies, is in its beginning a literature of sections, and that its history is the history of gradual approximation towards a national unity of character."

In giving the historical and social conditions as a background and thus bringing us into living touch with the leaders in the making of the literature, Mr. Pancoast's book is far from being dry, and is truly an introduction in that it incites further investigation. Historically the book has much value; as an incentive to further reading it is decidedly forceful; as a whole it is both readable and interesting. With a just and scholarly valuation on the one hand, and a dignified patriotism on the other, Mr. Pancoast neither overrates nor underrates the literature of America, but gives it its proper place in the literature of the world and in the history of the nation. This unprejudiced, broad view of the author is especially commendable and will do much more to bring about a better balance in the minds of many over-patriotic and unscholarly young people in America. The book is thoroughly up to date and leaves us, not a century back, but in the midst of a hopeful and fruitful company of writers. We do not feel that our literature is dead, but is just beginning to show its greatest possibilities.

The study lists for each group of authors might require some additions, according to special and personal tastes and opinions. There is considerable inadequacy in them at times. The author has anticipated such differences of opinion in his own confession that "where all are so excellent, selection is extremely difficult." Henry Holt & Co.

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Lehrbuch der gesammten wissenschaftlichen Genealogie, is a book of 490 pages, which comes across the water to us from the scholarly pen of Dr. Ottokor Lorenz, Professor of History at Jena. Of what interest can such a book be to scholars and teachers? We are inclined to regard the study of genealogy more as a pastime and fad for real and pseudo-aristocrats than a solid subject worthy of scientific treatment and capable of contributing something positive to human knowledge; hence one is attracted to this work, at first, largely through curiosity to see how a man of Dr. Lorenz's fame treats the subject. But curiosity soon changes to the deepest interest, for this book is both a surprise and a revelation—in fact a revolution in the concept, scope, and utility of genealogy.

More than a century ago Gattere, a German Professor at Göttingen, used a text-book on genealogy in connection with his historical work in the university. But from that day to this no serious effort has been made to treat the subject systematically and scientifically from the standpoint of its usefulness, with the exception of an occasional encyclopedic article, and a lecture now and then in some of the universities.

Dr. Lorenz has attempted to show how vitally genealogy is related to history, society, politics, religion, jurisprudence, biology, and psychology, and how essentially valuable, if rightly understood and used, it can be made to all these. Such a conception of genealogy raises it out of the realm of the fine arts, where it has been used as a cloak for blatant egotism and a fashionable fad for family aggrandizement, and places it among the more dignified liberal arts,—a study worthy of the deepest thought and most careful investigation and of greatest service. There is no more reason for condemning it because of misuse, than there is for condemning astronomy, or chemistry, or history, because they have grown out of astrology and alchemy and romance.

In biology and sociology and other lines of study the historical and comparative methods are being employed more and more, which indicates simply that genealogy, in the broadest sense, is coming into use more and more as a helpful means. These subjects are demanding and employing vaster historical material for the furtherance of researches and investigation, and therefore Dr. Lorenz believes that a scientific study of genealogy will open up new epochs in these branches of knowledge. He thinks a renaissance is upon us in this field, and instances the helpful work already done by the society of the Eagle in Vienna, and the Society of the Herald in Berlin as signs of the awakening interest. Ere long he hopes the German government will compel the university faculties to revive genealogical studies.

The broad concept of genealogy, with which he starts out, includes the interrelation and interdependence of all living beings. The genealogist, therefore, does not merely trace out lines of descent in the human family, but deals with the development and differentiation of all life,—in short, evolution. His problem begins with a study of the animal kingdom as it developed in various individuals and types—how, through heredity and environment, individual characters and distinguishing characteristics appear down through the ages, until we come to man, and finally, and most important, how these same forces have worked throughout human history down to the present time, producing our present races, nationalities, classes and individuals with our present life, civilization, and institutions. What an endless field of inestimable value this opens up—a field for a new Darwin!

To this end Dr. Lorenz discusses genealogy in its relation to history, political science, sociology, public and private law, statistics, biology, zoölogy, physiology, psychology, and psychiatry. A large part of the book is given up to methods of genealogical investigation and various arrangements of material in order to make them most useful. This is one of the greatest books of the century and will open up a new world for work.

A Primer of Psychology, by Professor Edward B. Titchener, of Cornell University, is in no sense an abridgment of his earlier college text-book, *An Outline of Psychology;* it is wholly re-written, and is an attempt to present the science of psychology in a form simple enough to reach the normal school and high school student. This is an exceedingly difficult task. The satisfactory study of psychology presupposes an acquaintance with the facts and methods of other sciences and a power of introspection sufficiently rare in college sophomores or juniors. It is not surprising, then, that Professor Titchener in not a few passages of this work should write in a style and use scientific allusions that only a mature and trained student can fully comprehend. To say this, however, is not to say that the work will not be exceedingly valuable for the purpose it is intended to serve. It has one uncommon merit in elementary text-books: it is interesting throughout, with a profusion of concrete and suggestive illustrations, and it would be a hopelessly dull student, who, failing to grasp all the discussions in the book, did not find himself stimulated to increase his knowledge of the subject. Further the student may be assured that what he does get out of the book will be in the line of the most recent and trustworthy developments of psychological science. No one is better qualified to write an authoritative text-book than Professor Titchener.

The book has several special features which should recommend it to those who teach. A set of exercises at the end of each chapter adds much to its usefulness as a means of mental discipline, and there is appended a list of pieces of simple apparatus with prices and makers' names which greatly simplifies the formation of a small laboratory. In a word, for interest and authoritative character the *Primer* is the best elementary textbook that has yet appeared; and it is better that a student should be puzzled and stimulated by a book too hard for him than tired and disgusted by a book like some of the recent undignified attempts to write popular psychology. Pp. 330. $1.00. The Macmillan Co.

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A History of French Literature, by Edward Dowden, is one of the volumes in the Literatures of the World series. Professor Dowden frankly says that perhaps his chief qualification for writing this history is his love for the subject. He has made free use of many different authorities and aims at giving in condensed form a clear-cut account of the most important authors of each period. To this end, the arguments of typical works are given together with an estimate of the bearing and importance of these works in the history of ideas. Professor Dowden's style is concise to the point of sometimes omitting words necessary to the construction of the sentence, but there is never any doubt as to what he means, and his judgments are just and adequate. The history closes with the romantic movement, since "the literature of recent years is rather a subject for current criticism than for historical study." An exceedingly valuable addition to the book is a copious bibliography which gives, first, a list of general works of reference, and then, classified by centuries, an extensive catalogue of special works. Pp. 454. $1.50. D. Appleton & Co.

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Principles of English Grammar, by Herbert J. Davenport and Anna M. Emerson, is an attempt—rather successful, it seems to us—to prepare a text-book for school use, based upon the conviction that in the essential sameness of thought processes among different peoples the broader principles of language structure must be general. The authors follow the inductive method in their attempt to lead the pupil to an acquaintance with the laws of language, and we believe that the use of this book in our grammar and high schools would give a much better preparation for the study of ancient and modern languages than is the case at present. Throughout the book the authors have kept in mind the relation between grammar and correct expression. The work is, however, a marked improvement over the majority of language manuals in that it recognizes the fact that grammar, while prescribing and enforcing the rules of good usage, is a culture study. The educational value of the study is found chiefly in the accurate thought analysis and in the processes of generalization which make up the work in this subject. Accurate and analytical habits of thought in the use of language can be inculcated by the study of language, while at the same time training in correct expression can be given. Teachers of English will find in this book much to commend. Pp. 282. 65 cents. The Macmillan Co.

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Professor George R. Carpenter is so favorably known to teachers of English by his *Exercises in Rhetoric and English Composition* that a new work by him on English grammar will be received with no small degree of interest. His *Principles of English Grammar*, just published, is a work designed for high school students who have already passed through the elementary stages of language study, and are in consequence ready to take up with profit the subject of English inflection and syntax. Professor Carpenter holds that there are four results that should come to the student from a course in English grammar: (1) he should know the logical method by which words are classified; (2) he should know the simple English systems of inflection; (3) he should understand the main principles of English syntax; and (4) he should thoroughly understand the structure of the English sentence. While it must be conceded that a small proportion of students never master these four things, we believe that Professor Carpenter's book in the hands of a good teacher will secure these results. For intending college students the work is to be given preference over all others that we have seen because it presents the theory or system of modern English in accordance with the results of philological research. Students will have nothing to unlearn, if at a later period they enter upon the study of historial English. Pp. 264. 75 cents. The Macmillan Co.

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Teachers of geography will find *Hints to Teachers and Students on the Choice of Geographical Books for Reference and Reading, with Classified*

Lists of the greatest use to them in their attempts to make this subject interesting and profitable in the grammar school. The author of the book, Hugh Robert Mill, D. Sc., F. R. S. E., is one of the ablest geographers in Great Britain, and his suggestions as to methods of study or as to books of reference may be accepted as representing the soundest judgment to be had. After a suggestive introductory chapter on the principles of geography, in which the modern conception of geography is stated with clearness and conciseness, there follow chapters on the various countries of the globe. The bibliographies of each chapter are preceded by practical hints on the use of the books afterwards mentioned. Pp. 142. Longmans, Green & Co.

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So many excellent editions of the German classics have appeared during the past ten years that one hardly sees the need of another series. But if the succeeding volumes of Macmillan's German Classics, to be edited by Professor Waterman T. Hewett, of Cornell University, are equal in merit to Schiller's *Wilhelm Tell*, just published, the series will more than justify its existence. The editor of this volume, Professor W. H. Carruth, of the University of Nebraska, has done his work so well that it is hard to see how it could have been done better. In the introduction, admirable both in matter and treatment, concerns itself with Schiller's life, the composition of *Wilhelm Tell*, criticisms and comment, style and meter, history and legend, portions of Tschudi used in *Tell*, the political situation, specimens of Schiller's Notes, and chronology. The notes are concise, and unlike much annotation in our school editions of *Tell*, do not do the student's or teacher's work, but take it for granted that the student has intelligence enough to use a lexicon or grammar, and that the teacher has at least a fair degree of learning. In schools in which such classics as *Tell* are studied from the literary point of view the subjects for themes and investigation contained at the end of the volume will be helpful and suggestive. The illustrations are excellent. Typographically this edition surpasses all the school editions we have seen. Pp. 306. 50 cents. The Macmillan Co.

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Guesses at the Riddle of Existence, by Goldwin Smith, is the title of a volume of essays on a class of subjects concerning which doubt or dispute would not long ago have been regarded as iniquitous. The subjects of the essays will best show the scope of the volume:—Guesses at the Riddle of Existence, The Church and the Old Testament, Is There Another Life? The Miraculous Element in Christianity, and Morality and Theism. While the spirit of agnosticism is absent from these essays, the author writes with refreshing candor and evinces that truth-loving attitude of mind which characterizes the true scholar. He evidently does not belong to that class of people who look upon frank dealing with a traditional creed as a wanton disturbance of faith. Open-minded thinkers will find in these essays profound intellectual insight, rare scholarship, and a sincere hatred of shams. Pp. 252. $1.25. The Macmillan Co.

Under the title *Essays on the Civil War and Reconstruction*, Professor William A. Dunning, of Columbia University, has brought together a number of essays which are valuable for the light they throw on the actual history of the time with which they deal and which merit the most careful attention of the student of American history because of their philosophical insight and wide information. The volume contains seven essays as follows:—The Constitution of the United States in Civil War, The Constitution of the United States in Reconstruction, Military Government during the Reconstruction, The Process of Reconstruction, The Impeachment and Trial of President Johnson, Are the States Equal Under the Constitution? and American Political Philosophy. Pp. 384. $2.00. The Macmillan Co.

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In *A New Astronomy* by, Professor David P. Todd, of Amherst College, we have a text-book which admirably meets the present requirements of schools for a practical and scientific text-book. By placing more importance on the physical than on the mathematical facts of astronomy, the author has made the book deeply interesting to the general reader as well as to the student. Mathematical results are given, but unnecessary mathematical processes are in all cases omitted. Illustrations are abundant. Pp. 480. $1.30. American Book Company.——A text-book which can be commended for its freshness of treatment and accuracy of statement is *Applied Physiology*, by Frank Overton, M. D. While giving all the useful points of the older text-books, the book contains more new matter than any school manual on the subject that we have seen. The recent progress of physiological and hygienic science makes a work like this necessary. Pp. 432. American Book Company.——No man in this country has done more to promote the cause of sound science teaching than Professor Leroy C. Cooley, of Vassar College. He was one of the first college professors to prepare text-books suited to the needs of schools in which experimental work was done. His latest text-book, *The Students' Manual of Physics*, is most excellent, both in matter and method. Professor Cooley rightly believes that the best results in the teaching of physics are obtained by a combination of oral instruction, the study of a text-book, and laboratory work. In this new manual there is a judicious combination of a statement of definitions and principles along with full experimental work for laboratory practice. The work follows the rational method of procedure by introducing terms as names to designate ideas which have arisen, and formal definitions and statements of laws are intended to be summaries of the characteristics of the phenomena which they describe. In short the book is one the use of which in our secondary schools will increase the educational value of physics as an essential part of our school curriculum.

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A Text-book of Elementary Botany, by Professor W. A. Kellerman, of the Ohio State University, is a work differing from the older school manuals in that more attention than usual is given to the physiology of plants. It is the purpose of the author to put the pupil in the way of carrying on investigations for himself rather than to furnish him a mass of information concerning the vegetable kingdom. A useful feature is a compact spring flora, which includes all the plants that pupils will find in bloom during the spring term of school. Pp. 300. Eldredge & Brother.

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The impetus which the child-study movement has received during the past few years has led to the publication of a number of books of a more or less untechnical character intended for the general reader rather than for the specialist. One of the best of the recent volumes of this kind is *The Children of the Future*, by Nora Archibald Smith, who was associated with Kate Douglas Wiggin in the writing of *The Republic of Childhood* and *Children's Rights*. Though written for mothers rather than for teachers, the book contains much that would aid the teacher in the work of seeking to understand as fully as possible the needs of childhood. Teachers will come to deal more wisely and sympathetically with children in the degree that they learn to take an interest in children as individuals. Miss Smith well says that the great fault in our school system is that we try to educate pupils in battalions. We do not individualize sufficiently, and the one sweeping reform which the author hopes that child-study may make is to open people's eyes to the fact that we cannot grow children as we can string-beans, planting them at exactly the same depth, furnishing them with the same fertilizers, and providing them on the same day with twelve dozen bean-poles to run on, all the same length and diameter, and stuck straight into the ground at rigidly mathematical intervals. No thoughtful teacher will disagree with Miss Smith's position in this matter and in leading the public to a clearer recognition of all that is necessary to full human development such books as *The Children of the Future* render an important service. Pp. 165. $1.00. Houghton, Mifflin & Co.

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Mr. Louis N. Wilson, Librarian of Clark University, has performed a useful service in preparing a *Bibliography of Child-Study*, a tastefully printed pamphlet of fifty pages. Mr. Wilson has classified his material as follows: (1) A list of books, memoirs, and brief articles up to date; (2) the titles of the leading serial publications dealing with child-study; (3) reports, serial studies, and transactions of societies; and (4) a brief list of current books on themes most nearly allied to work in this field. The alphabetical arrangement by authors is followed, while in a full index the more important subjects are arranged under leading captions. It is hard to see how any educational worker who is at all interested in the study of children can do without this pamphlet. 50 cents. The Clark University Press, Worcester, Mass.

* * *

Memory and its Cultivation, by F. W. Edridge-Green, M. D., F. R. C. S., forms the latest addition to the International Scientific Series, and like most of the volumes of that series, possess no small degree of scientific value. The majority of books written on the subject of memory are so lacking in scienific accuracy as to have little or no value. In this volume by Dr. Edridge-Green we have a scientific contribution to the literature of the subject, valuable alike for its discussion of the nature of memory and for its suggestions for improving the memory. The author asserts that after learning the facts which led him to write on the subject of memory, he found that he could learn a subject in about a fifth of the time that it previously took him. Whether the reader of the volume will be able to improve his memory in a corresponding degree, we are inclined to be skeptical, but one thing is certainly true, and that is that the work possesses undoubted merit as a theoretical and practical monograph on a subject about which there is yet much to learn.

After an introduction in which the author sums up his brief discussion of the nature of memory by saying that memory is a definite faculty which has its seat in the basal ganglia of the brain, separate from, but associated with all other faculties of the mind, the author treats of the diversions of memory under two heads: (1) general sensory memory, and (2) general motor memory. The discussion of motor memory is especially satisfactory. A chapter is given to each of the following topics: the faculties of the mind; the special memories; remembrance, recognition, and recollection; the direct connection between the motor and sensory memories; memory in the lower animals; the variations of memory at different periods of life; some anomalous conditions in which memory plays an important part; pathological conditions in which the memory is affected; and the localization of memory. Part second of the volume comprises a little over fifty pages of rules for the cultivation of the memory, based on the principles set forth in the earlier part of the work. To the reader who has mastered the author's preliminary discussion these directions for memory-training will have an undoubted value. Pp. 307. $1.50. D. Appleton & Co.

* * *

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Edited by ALBERT LEONARD

JULY, 1898

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A CLASSICAL COURSE IN ENGLISH.

Our remarks in the January issue of the JOURNAL OF PEDAGOGY to the effect that the cause of sound literary culture could be promoted in our schools by the careful study of English translations of Greek and Latin classics have been commented upon more favorably than we believed would be the case. Readers of this magazine need not be told that we place a high value upon the study of Greek and Latin as a means of culture. But our contention is that so long as the teaching of these languages in our secondary schools is confined so exclusively to the syntactical and philological side, the cultural value of Greek and Latin is not so great as the friends of classical culture would like to believe. That we are not alone in this opinion is to be seen from the following quotation from a letter written by Professor O. B. Super, of Dickinson College, one of the most scholarly teachers in this country: "I desire especially to commend your epigrammatic statement that it is better to have the literature without the language than the language without the literature. While it would be impossible to get the language thoroughly without, at the same time, getting some knowledge of the literature, it is certainly true that most of our pupils, not only in school but also in college, get very little of the literature, whatever they may get of the language. Now, my contention is that a knowledge of Greek and Roman literature, especially the Greek, is an essential part of a liberal education, although I am far from asserting or even admitting that a knowledge of these languages is of supreme importance. In the four to six or even more years usually devoted to the study of these languages, a comparatively small amount of the literature is read, and even that small amount is not generally read as *literature* but as 'material for grammatical drill,' as you very appropriately remark. Of course, if a boy really wants to know *Greek*, there is nothing for him to do but to study *Greek*, but a large majority of those who now study that language are actuated not so much by a desire to know the language as by a desire to obtain a degree in Arts, which in most colleges presupposes a certain amount of Greek. Neither is the claim that the study of Greek and Latin is indispensable to the highest mental discipline now so loudly made as it once was. I, therefore, steadfastly believe that if a large part of the time now spent in reading Greek and Latin texts were devoted to reading good translations of these texts under the direction of a competent teacher, pupils would not only derive more genuine culture from them but they would not derive less mental discipline from the process."

EDUCATIONAL ARTICLES IN THE MAGAZINES.

Friends of educational progress find cause for rejoicing in the increased attention now given to educational topics by the leading literary magazines. Our educational magazines, for the most part, are read only by those actively engaged in teaching, and as a consequence some of the best educational literature never reaches directly that part of the public most likely to be instrumental in making school reform possible. But educational articles in the literary magazines are likely to attract the attention of an intelligent class of readers, who are by this means certain to become more keenly alive to the needs of our schools. As an instance of the space now given in our high-class magazines to the discussion of educational subjects, the *Atlantic Monthly* for the past year or so will serve as an illustration. There is seldom an issue of this magazine that does not contain a serious discussion of an educational subject. Like all the material which finds a place in the *Atlantic Monthly*, the articles on education are of a high order of merit, and can generally be commended for their temperate tone and saneness of view. It is safe to say that the educational discussions which have appeared in the *Atlantic Monthly* during the past year or two form one of the most far-reaching influences for good that have been exerted in recent years in the direction of creating a more enlightened public sentiment in favor of more rational methods of school training.

MR. BURK ON NORMAL SCHOOLS.

Frederick Burk, of Clark University, whose article in the *Atlantic Monthly* on the training of teachers attracted so much attention and comment last fall, has followed up the subject in the June issue of the same magazine with an article dealing with what the author calls the shortcomings and mediæval methods of State normal schools. While we cannot agree with all of Mr. Burk's strictures upon the work of the normal schools, it must be conceded that there is ground for a large part of the criticism made against the methods followed in these schools. The article, "A Study of American Normal Schools," by Dr. Fred W. Atkinson, which appeared in the JOURNAL OF PEDAGOGY more than a year ago, made it clear that our state normal schools are not keeping pace with the pedagogical progress of the age, and if Mr. Burk's arraignment of the normal schools is read in connection with the more dispassionate review of the situation by Dr. Atkinson, there is left no longer any room for doubt that the time has come for opening up new ways and lifting the preparation of teachers to a higher and more advanced plane of usefulness; and yet in admitting the need of improvement in our normal schools, we do not overlook the splendid results which have been achieved by these professional schools. Mr. Burk's characterization of normal schools as "educational blind alleys" goes, it seems to us, beyond the truth, though we would not disagree with him in condemning the self-satisfied spirit which pervades some of these schools. This feeling of having arrived at pedagogical truth is the result of the attempts made by the normal schools to mechanize instruction, and we are in hearty sympathy with all criticism directed against the tendency to exalt methods above principles. Pestalozzi's view that there could be no progress in the instruction of the people until there could be found the forms of instruction which make of the teacher the simple mechanical instrument of a method which owes its results to the nature of its processes and not to the ability of the one who uses it, is in too many cases held by the conductors of our normal schools, in spite of the absurdity of such a doctrine, and Mr. Burk does not go too far in his pungent criticisms of the methods of those normal schools in which only traditional methods are handed down from year to year. At the same time he does not deny that in some of the normal schools there are higher standards and that the working out of the large problem of more rational professional training is being intelligently undertaken.

NORMAL SCHOOL STUDENTS.

There is one point in Mr. Burk's paper which calls for serious consideration, namely, that the better class of minds are not attracted to the normal schools. From the evidence submitted it seems beyond doubt that the students in the normal schools to-day are inferior in mental ability to those of earlier years. "We normal school people" says a normal school principal, quoted by Mr. Burk, "are taking second pickings," the first picking having been taken by the colleges. Owing to changed conditions many young women go now to Radcliffe, Smith, Wellesley, and Vassar, whereas the time was when the ambitious young woman went to the normal school, simply because the normal school was her only educational opportunity. This deterioration in the intellectual quality of the students in the normal schools is a condition of far-reaching significance, and Mr. Burk puts the matter rightly when he says: "The ideal function of the normal school must be to attract to the field of education the better class of minds; for the problems of education, in importance and difficulty, are among the most subtle of all problems. When the normal school fails in this service and sinks to the level of putting young women of lower mental capacity into places where they can easily earn a living at the public expense, and thereby burdening the cause of education with an inert mass of dependents, then the institution becomes a positive evil. The sole purpose of the public schools is to educate." Whether it is true of other states than Massachusetts—in whose normal schools Mr. Burk has carried on his investigations—that in point of native endowment and of that personal culture dependent upon home influences the normal school student of to-day is distinctly the inferior of the student of twenty or twenty-five years ago, we do not know, but the matter is one that needs careful investigation. Normal schools should be the crowning glory of our public school system, but we should see to it that they are rendering the best possible service to the cause of better teaching. If it is true that only second-rate ability is drawn to the normal schools, the cause of this condition should be sought, and the remedy speedily applied.

NORMAL SCHOOL FACULTIES.

In the course of his discussion Mr. Burk touches upon another phase of the normal school situation that ought not to be lost sight of. It has long been felt that the scholastic and cultural qualifications of the faculties of these schools are entirely too low. The thing of chief importance in the estimation of some at least of the normal schools is training in methods of instruction, whereas it seems to us incontrovertible that scholarship and culture should always be insisted upon as an essential element of the teacher's equipment for normal school work. Taking the normal schools of Massachusetts as examples, Mr. Burk presents some surprising, not to say startling, facts concerning the educational training of the faculties of these schools. During the year 1896 there were, approximately, one hundred and twenty-four teachers and principals in the state normal schools. Of these only fifteen, or twelve per cent., were college graduates; of the seven principals, four were college men. From the records of the academic training and experience of one hundred and three of these one hundred and twenty-four teachers, it appears that ten others attended some college for periods ranging from a few months to two years; sixty were graduates of normal schools, almost exclusively of Massachusetts; fifty-four, or more than fifty per cent., had had no training higher than that offered by the normal school; eleven had had less than normal school preparation. In the case of twenty-four of these teachers there is no record of high school graduation prior to their entrance upon their work as instructors in normal schools. In the matter of experience the showing is no more favorable, while it is a striking fact that of the eighty-five teachers in the five older schools, forty-three were graduates of the same schools in which they taught. In another school nine out of fifteen were graduates of the school, with little or no evidence of any training outside of its walls. This breeding-in process, which it must be admitted, is as true of other states as of Massachusetts, is a most serious evil, and one which ought not to be allowed to exist much longer. These facts concerning the normal schools are, as Mr. Burk says, unpleasant to refer to, but it seems to us that the friends of the normal schools themselves recognize the necessity of making a frank statement of existing conditions, for a comprehension of the problem is the first step toward a better state of things.

* * *

BETTER SCHOOL SUPERVISION.

Of the various kinds of educational literature produced in this country, none affords a better means of determining the condition of education in city schools than the annual reports of the superintendents of instruction. For the most part these reports contain matter of more than local interest, and in not a few cases there are found in these annual publications pedagogical discussions of the highest value. But after making all due allowance for the excellence of the better class of these reports, the conclusion is forced upon us that the large majority of the annual reports of city superintendents—who by virtue of their position are supposed to be leaders in educational thought and practice—lack strength, and evince a rather low state of pedagogical training in these men. There is, no one will deny, a steadily increasing number of adequately equipped superintendents to be found at the head of the city schools of this country, and in passing unfavorable judgment upon the annual reports we do not overlook the scores of men whose work as school superintendents reaches an almost ideal standard of excellence; but as reflected in the hundreds of school reports issued each year, the quality of efficiency from the pedagogic point of view is much below what ought to be insisted upon in school administrators whose influence in determining the character of the American public school system is so powerful. While these annual reports must in the nature of the case deal with topics of local interest, it seems to us that at the same time educational questions could be treated in such a manner as to bring clearly before the public the rapid advance that is being made in educational practice. Some of the most pressing needs of the public schools are seldom touched upon, while one of the leading purposes in making these annual reports seems to us to be to educate public sentiment in favor of better things in educational work. This end can not be accomplished so long as these reports confine themselves to glittering generalities. From the laudatory tone which marks some of these reports one who did not know better would infer that a most satisfactory condition of things had been reached, and that there is but little room for further improvement. There are still other reports whose main purpose would seem to be to conceal the fact that there is anything new in educational practice. In others it is painfully evident that a considerable part of our supervision is only perfunctory and mechanical, and that the one great need of our public schools is not so much better teaching as more intelligent supervision.

PREPARATION FOR SCHOOL SUPERVISION.

In spite of the fact that there is an encouragingly increased value placed by the public upon efficient school supervision, the state of things referred to above will continue until we reach some definite and firmly established standard of professional qualification for admission to the ranks of school superintendents. Under existing conditions in this country there are no special professional qualifications demanded of candidates for this most important educational office. In the State of New York, for example, teachers of the elementary schools must have at least a high school education and one year of professional instruction. The law forbids the appointment of a teacher in any city who can not meet this requirement, while on the other hand it is entirely possible for a man without either scholastic or professional attainments to be selected to direct the educational interests of a city or community; in other words, there is nothing whatever in the laws of the state bearing on the educational requirements for this position. This is certainly an anomalous condition of things, and it is our judgment that one of the most urgent needs to-day in our educational system is some well-defined standard of professional training for men and women who are to guide the educational activities of our villages and cities. At present it must be admitted that there is scarcely any opportunity for preparing superintendents for their work. There ought to be, it seems to us, in every college and university having a department of education ample provision for the thorough study of those special problems which fall within the scope of school supervision. A superintendent ought, as a matter of course, to be broadly trained in pedagogical matters, but this general training should be supplemented by a careful study, under competent direction, of those subjects which make up a large part of the work of the superintendent. This training would give not only a clear insight into the meaning of education, but would make the superintendent an educational guide in the best sense of the word. As yet this work has not been undertaken by the universities, but it is our belief that the growing recognition of the significance of efficient supervision will soon bring into existence adequately equipped departments for giving the necessary professional preparation. In no other way can the universities so profoundly influence the educational interests of our country as by making provision for the training of superintendents of schools who will be able to fashion the educational thought of the communities which they serve and to direct it in the right channels.

SCIENCE AND PEDAGOGICAL SCIENCE.

A few years ago the President of Yale University made a statement of what a boy of fourteen or fifteen ought to know. To me it was an appalling list, for it demanded much that I never knew or could know, neither have I ever known a boy of that age who knew one half of what the list called for. By knowing, I do not mean what can be committed to memory and produced in verbal form in examination, but rather some appreciation of the subject matter with ability to utilize it in other relations than the ones in which it was learned. Every teacher of even a little experience knows how slim are the attainments of his best scholars as measured by the standards set for the schools. Yet the pressure is for more and better work. An unexpressed assumption seems to be that maturity of mind can and ought to be attained by economical mental application, and this in the face of the whole history of real education.

We all know of the present ferment in educational matters in all civilized countries. In Germany, to which we have been bidden to look as a model for school work, the dissatisfaction is as profound as it is here and changes in methods and ideas are going on as fast. France and England are trying experiments and there is no country where there is anything like satisfaction. It is said and generally believed that the system of education adapted for our country may not be appropriate for another with different institutions and customs, but such varied ideals hardly comport with the definitions of education commonly given. If there be any to-day who say that to educate is to "draw out," they will hardly say that the institutions, customs, and modes of thought of different countries can be "drawn out" by any educational process. These matters are simply grafted into the minds by training, artificial processes, which have little to do with education proper, which is, the fostering and development of the inherent qualities of the mind. Institutions have nothing to do with the matter further than to provide suitable opportunities for education. Cucumbers may be grown in bottles. If it be the fashion to have square cucumbers in Germany and round ones in England, one country will use square bottles and the other round ones to grow them in, but these forms have nothing to do with the growth of cucumbers except to deform. The essential qualities will be the same in both. It is quality rather than form which is desired and form is too often mistaken for quality. It is the quality of the educational product in all the countries that is unsatisfactory and each is trying to mould it into what is thought to be a better form.

A short time before his death, Mr. Quick, the educationalist of England, said he had been unable to carry out some of his educational ideas, but some others he had been able to carry out completely and he could only express his disappointment with the results. If a proper system be properly applied, how can it be disappointing? Is it likely that there is no law applicable to this matter so there is no uniformity to be expected? If so, the sooner that is found out the better, as it will relieve all of further effort. If there be law, there is uniformity, and when effort is intelligently employed, there will be no failure. Granting this, one may conclude that all of us are very far from doing our educational work in accordance with nature's scheme.

How are we to learn what is nature's scheme so we may do our work properly? So far as experience has gone, we are taught what not to do, for we do not get the results we seek. Is it certain the results we have sought are proper ones? If the ideal be wrong, one should expect failure, as well as if the method be wrong. Has nature an ideal that one may discover? We know of evolution. Most believe in it now-a-days, only everybody wants to interpret it in accord with his own notions of what its limits are. A thorough-going evolutionist, who sets no limits, and looks for antecedents of a knowable kind in mental as well as physical anatomy is rather rare. Some hold evolution to be true for astronomical and geological phenomena but are doubtful about vital. Others include living things, animals and plants, but are doubtful about the lineage of man; and still others grant the latter but reserve the mind as a preternatural gift. If evolution be granted without any if's or and's, then do we have exhibited in the development of the race up to its present stage a plan which nature seems to be in no haste to change though offered assistance in a hundred ways. Here is the structure and here the inherent possibilities. Some of the latter we call good and cherish, others we call bad and try to suppress. Meanwhile nature goes on with her manufacture regardless of our painstakings. Even continually defeats it by recruiting society from what we call the lowest and not the highest. There is something wrong here either in the make-up of created things or in our ideals of what is really the end in view. I suspect it to be the latter. But I do not intend to go into a showing of that phase, I only want to point out the inconsistency of our schemes of education with a thorough-going belief in evolution. It is shown in the attempt to make out of a given specimen of humanity something radically different from his ancestry. Once in a while there is a "sport" with great possibilities. We hue him to the line like the rest, if we can, or kill him in the attempt. And we do this in the name of educational science.

What is science? Everybody is ready at once to answer that question. Pages could be presented of the definitions that have been given of science. Thoreau said "History is for the most part a story agreed upon by posterity," but science is not supposed to be a subject to be settled by vote, and not a little of what is held by some to-day to be genuine science is believed by others to be utterly untrue. That which is called science by the scientist is what he thinks to be irrefragably true. And there are the sciences of astronomy, geology, chemistry, physics, etc. Knowledge is not complete in any of these, but there are some fundamental propositions in each that are held as demonstrated, and if anyone offers a new proposition which is incompatible with the fundamentals, it is at once pronounced to be untrue without hesitation. Mathematicians will not listen to one who proposes to square the circle. They will listen to one who proposes a new geometry where the sum of the three angles of a plane triangle do not equal 180 degrees. Physicists will not listen to one who proposes to account for gravity by magnetic action ; they will listen to one who proposes to show that light is an electro-magnetic phenomenon. Uniform experience is the criterion for every proposition. Correlated experiences yield science, and correlated inferences yield philosophy. Isolated facts or phenomena are not science, but their proper interpretation is ; and by proper interpretation is meant, an explanation which is in accordance with all experience. One may work with facts a life time and not get a glimpse of science. If our forefathers had nothing we call science, it was not because they had no experience, but because they did not compare experiences, and saw no necessity for noting the relationship between one class of facts and another. Until they did, fancy was free, there was no criterion. The astronomer could limit the age of the earth to suit his theological notions ; the geologist could take all the time he wanted. Their demands seriously overlapped and further experiences were needful for readjustment of boundaries. Now, underneath the controversy on both sides is the assumption of uniformity in the quality of the changes, modes of action, and amount of energy involved. These most important things have been settled. It is these that make science possible, indeed that constitute science. Omit any one of them and confusion follows swiftly. Admit them, and the details at a particular time and place may be worked out at one's leisure. These details or laws may be important for the conveniences of life, equations, railroads or electric lighting. They may have exceeding interest like Röntgen's rays, and help in following out historic orders and changes, as do spectroscopic studies. These are not science but illustrations or applications of science ; science lies behind them all. So far as general science is concerned they only corroborate and give additional illustrations of *the order and determinateness of changing phenomena.*

Ask any philosopher or anyone who is in any way concerned with the problems of human life, what principles of science he adopts as fundamental and assumes as his guide in thinking and doing. His reply will contain no allusion to astronomy, geology, chemistry, physics, physiology or any other of the material sciences; what he uses is fundamental to them all and his scheme fails by as much as he leaves such fundamentals out. He cannot be independent and ignore them, and the outcome of his work he expects will be in accordance with all.

Every science must be interpreted in the light of other sciences. It is only when we get into physiological and psychic regions that some begin to hedge. They are content that uniformities should be asserted of material phenomena but object when applied to life and mind, and this too in spite of the overwhelming consensus of opinion from biologists that all the phenomena investigated by them are as distinctly correlated with physical phenomena as the latter are with themselves. There is no consistency in evolution if it be otherwise, and must be assumed to make anything intelligible, so that here as elsewhere uniform experience interpreted in accordance with other uniform experiences gives us science as its product.

The details of the special sciences have grown to bulky volumes and men devote their lives to but a single phase of one, as of the spectroscope in astronomy, thermodynamics in physics, and beetles in biology, yet these fundamental scientific principles which I have spoken of are not materially strengthened by much work. One may acquire more skill but that soon reaches a maximum and no amount of practice improves upon it. One may add greatly to his knowledge but not of a kind of fundamental importance. If he does not early get that, he never will get it.

It is the uniform experience in handicrafts of all sorts that those who have aptitudes for a given kind of work, acquire skill in a remarkably short time when they have a chance, and one without aptitude never becomes skillful. Formerly an apprentice was kept seven years, afterwards but three years. I knew a 16 year old apprentice in a machine shop who in six months became the most skillful workman in it, and had the most delicate work of fitting given to him. Longer work in that business would give him greater variety of work but no more skill; in that direction his education was finished. So I apprehend it is in all directions. It has been common to hear the advantages of a science education specified as training in perception, in skill, in care, in painstaking, in accuracy, all these and more. Faraday set the cultivation of the judgment as a great desideratum and believed that scientific knowledge would prove a powerful agency in helping to form sound judgments, but the judgment he referred to was not on methods of experimentation or carefully verified results, but rather such as had a direct bearing upon conduct. The assumption in this, as also in almost all of educational effort is, that if one can acquire skill, patience, judgment in one field of effort, these qualities will dominate in other fields as well; which is contradicted by the experience of generations, and also by what is now known of nerve cell structure and function. A person's judgment on mathematics may be trusted, yet no value be given to his judgment on matters of prudence, while his manners may be execrable. One may have extensive and accurate knowledge of astronomy or history, yet be a poor adviser on political economy. The fact is, there is no one science or group of physical sciences, how well soever pursued, that will give to a person those powers of mind and balance of judgment which is instinctively looked for in a so-called educated man.

Such sciences as physics and chemistry when pursued thoroughly in a quantitative way induce a mental habit of judging of matters much more complicated, as if they were as simple and determinate as those they have been concerned with, whereas nearly every important social relation is immensely more complicated than any laboratory experimenting can be. The most that the latter can do towards helping in the solution of the former is to provide one with the *sense of necessary relations* and of *cause and effect*. These sciences *can* yield this product better than any other kind of work, but if in laboratory work the attention is chiefly directed to manipulation, neatness, accuracy and the like, rather than to the relations and factors of phenomena, its value to the student as a citizen, rather than as a scholar to be examined, is at a minimum.

Again, such sciences as geology and natural history, do not have such factors as can be precisely measured as those in physics and chemistry. There may be developed in their study the ideas of continuity and complexity in a marked way. And these notions are if possible more important than the former. Organic phenomena help to develope the ideas of continuity and complexity of causation, many antecedents to each consequent, and so are an offset to the bias of mind which results from much quantitative work with simple factors. Evidently these two kinds of science training should go together, and the important things evidently are,—the necessities of relation, the continuity, the order of phenomena, cause and effect. These are the essentials.

The sense of quantivalence needs to be aroused but in my opinion a very little work of the proper kind is sufficient to develope it fully, for the experiences of life enforce the lesson every day. How many experiments do you think any scholar needs do in order to be convinced thoroughly of the uniformity of physical processes? Experiments with gravity, buoyancy, light, electricity. These done not with the primary idea of acquiring dexterity in the work or even any considerable degree of accuracy. Once acquainted with the order of physical phenomena, obtained by qualitative work, and the uniformity of relations by quantitative, the scholar can read understandingly and critically in a measure most science books that will fall in his way. Again, for other reasons, it seems of doubtful worth to attempt much quantitative work in elementary schools.

It ought to be borne in mind that the quantitative phase to which so much time and effort are given, is the very last and highest and final phase in science. On all sorts of problems there are hundreds trying to add another decimal place to the physical constant, and for most it is time thrown away as completely as it is when one would add another decimal to the value of π. However advantageous it may be to know exact values, the advantage is for the mature and not for the beginner. Educationally there is no advantage of thousandths over hundredths, milligrams over grains, nor of millimeters over inches.

Pedagogical science is such science as is adapted to pedagogical purposes. It is science which is adapted to the degree of maturity of the pupil who studies it.

Let me quote from the address of Dr. Hartwell before the Boston Medical Improvement Society and published as a pamphlet only a few weeks ago. Says Dr. Hartwell, "The law of evolution of the nervous system seems to me a sure and serviceable criterion of the worth and propriety of educational procedures of every kind, since it affords a means of comparing our conventional methods of educating the individual with Nature's method of educating the race." He commends to educationalists that they should study the structure and functions of nerves, especially during childhood and youth. He says that pedagogical science indicates that educational method "should savor more of incitement than of compulsion," especially between the 12th and 17th years.

Pedagogical science, as I understand it, is that part of the science of psychology which is concerned with the laws of the development and growth of the mind.

Pedagogical art is the adapting of the environment to the growing mind, so it shall be provided with what it needs at its various stages of growth.

Are we sure that our ideals are right? Dr. Stanley Hall has had a glimpse of that as a proper question, for he somewhere says, our failures may be due to the fact that in our wisest endeavors we work at cross purposes with nature. *Granting that nature's plan has been to lengthen infancy and childhood and delay maturity, are we not endeavoring by all means at command, intimidation and pressure, to 'shorten that period and bring maturity of mind to immature bodies?*

Is not the demand of colleges for so-called preparation to enter upon their grade of work, a demand that calls for a quality of mind which one can find only in prodigies or in maturity? Pedagogical science derived from study of the nervous system gives no countenance to such procedure. If one's bones be in the gristle stage, how can one stand upright? If one's brain cells have not yet established prolongations and association fibres, how can mental relations be established between things and thought, between conduct and ethics? Present system says practically, work him hard on the things in order to developé the associations. Physiological science says work him easy. Too little is safe, too much is paralyzing. If school work is distasteful, or makes the scholar nervous and uneasy, there is the physiological warning that the brain structure is improperly worked, either in quality or quantity. Pedagogical art should watch the brain, not through curriculum spectacles, but through the muscular and secretory systems. Moods deserve more respect than they get. Physiology stands behind them. Training may make one automatic but it never gives gumption, yet the latter is what we want. Gumption is only the colloquial name for wisdom. Brain cells grow in their own way and cannot safely be dictated to. They may be starved and cease to function through lack of opportunity. This comes about when the organization is adapted to one thing and the curriculum to another. Nature versus a wrong ideal. The curriculum is planned to stamp out race proclivities (which is only another name for nervous structure) so that the mind as an entity, independent of structure, may act through selected avenues. Such an assumption, though not so baldly stated, underlies nearly everything' that has been written on pedagogy. It is needless to say that there is no physiological basis for it. Once the body was considered as a local habitat for the mind and no attention was given to the body in educational matters. Then when it was found that the mind and nerves were in some way associated, the inference was that the nerves were the machinery through which the mind acted, and then some attention was paid to the physical condition of the scholar. Now we know that the mind and nervous system are one and indissoluble, and as Donaldson says in his work on the "Growth of the Brain," "Education is the modification of the nervous system." If it were otherwise, evolution would be a meaningless word. Pedagogy must get all its ideals and its methods from this source. Its ideals, by finding out as fast as possible what the scheme of nature is and working on that line. Nature's plan is written in the history of the race. That the history of the race is duplicated in the life of every one of us, is now an idea familiar to everybody, but it has not been adopted in pedagogy. When it is, almost every scheme now called educational will be as extinct as the dodo.

When I had got so far I said to myself, Will anything you have written be helpful in any way to that body of earnest, anxious, and overburdened teachers who want to know how their labors may be made more efficient? My only answer to that is, the point of view of the teacher must be right. One must not work at cross purposes with nature, and no degree of enthusiasm and conscientious effort will atone for the lack of it. Nature gives no recipes and will lend a hand only when one goes her way.

Teachers are like those born in a monarchy, all the institutions, modes of thought and ideals are ready made, and the individual is expected to adapt himself to them and to approve them. If he discovers better ideals and better institutions which he would fain have his nation adopt, he may turn reformer, and like a steam engine, try to propel society into the promised land; or he may assume the function of a rudder and with less ostentation or friction steer his precious cargo so it will ultimately reach the same destination.

Tufts College. A. E. DOLBEAR.

PHYSICAL LABORATORY WORK IN SECONDARY SCHOOLS.

a. Shall it be principally quantitative, or qualitative?
b. How long a time should be given to it?
c. Supervision.

In considering the teaching of physical laboratory work in secondary schools, as to whether it should be principally quantitative, or qualitative, and how much time should be given to it, it seems well that the second division of the subject should be treated first. Let us consider then the matter of time, remembering that the question stands, "How long a time should be given to it," and that we are, for the moment, set free from the limitations and hindrances which often make it well nigh impossible to do the things which seem so fair in the planning.

If physical laboratory work is to be done in the secondary schools, and done so thoroughly as to be of real advantage to the pupil, furnishing mental training and some degree of skill in manipulation, I think the time allowed for it should be no less than four hours a week for the forty weeks of one school year, and that this time should be given to two exercises of two hours each, rather than to four exercises of one hour each. It seems well that this time should be taken late in the course, preferably during the junior year, and it should either follow, or be carried along with, a thorough course of lectures and recitations.

As to whether the laboratory practice should go with the lecture course, or follow it, there are arguments on each side. Lecture, recitation, and laboratory ought each to help the other; on the contrary it is a difficult matter to keep the work together. One lecture may furnish material for several laboratory exercises, while the classroom teacher is making franctic efforts to make the recitation connect the two. A holiday, or an hour given to examinations again spoils the arrangement and so time is wasted, especially in a large school, in keeping all parts of the work harmonious. These objections seem trivial but they are real difficulties where classes are large, and school machinery intricate. Another objection to having all parts of the physics work during the same year is that it makes a one-sided course, too large a part of the time being given to the one subject. If classes are small, and one teacher has the absolute planning of lectures, recitation work, and laboratory it may be best to carry on all at the same time. If classes are large and numerous, and the ideas of several teachers are to be harmonized, my preference is to have the practical work follow the lectures and recitations. In this case if one lecture be given each week, upon the subject under consideration, it will greatly help the laboratory work.

But we have asked for four hours a week of laboratory work for forty weeks, which, allowing for interruptions caused by holidays and reviews, would leave about one hundred and fifty hours of actual laboratory practice, shall we spend this time principally in quantitative, or in qualitative experiments? Our answer would be, principally in quantitative ones. As each division of the subject is taken up, let there be a few qualitative experiments, where they seem to be called for, but always, if possible, let them be followed by quantitative work. Watch your pupils when the work changes from qualitative to quantitative. Their very attitude shows increased interest. A moment ago the air-pump was merely an interesting toy as the pupil placed her hand over the glass and found as she raised the piston that atmospheric pressure was a real force, not merely a convenient explanation for certain 'phenomena. Now we tell the class that they shall find out approximately how much of the air they can exhaust from the receiver; will pumping take away half the air, or more, or less? will all the pumps do equally well? "You are looking for the truth about your own air-pump," the teacher says, "I do not ask that your work shall be like that of the pupil next you, or like mine, or even like some answer in a book, I ask only that you do your work well, that you see, and measure, and tell accurately. When your work is done we will try to find what it means, as we compare the results with those of other experiments." The pupils like this, they bend to their task, they eagerly watch each known source of error, they contrive expedients some wise, some otherwise, and greet the signal which interrupts their tasks with signs of displeasure. The air-pump is no longer a toy, but a piece of delicate mechanism which can be made to tell its own charming story of how accurate an instrument it is.

So spend two-thirds of the time in quantitative and qualitative work, leaving one subject as heat, electricity or light entirely untouched, then take up this one subject and give the remaining time entirely to it. Now let the work be largely quantitative. Suppose this subject to be electricity. Then while some time may be spent upon static experiments, some upon those in magnetism, and a little time be given to seeing and handling the batteries, galvanometers, rheostats and other apparatus of which they learned something in the lecture and recitation course, by far the greater time should be given to quantitative work, say in measurement of resistances with the bridge. Give them the best apparatus possible, let them know an ohm as they know a pound, that the length of an ohm of copper wire differs from that of an ohm of German silver wire of the same number, as well as they know that the volume of a pound of sugar differs from that of a pound of iron. Let them measure the resistance of a piece of wire which is several ohms, estimate the length of one ohm, cut a piece the estimated length, and measuring its resistance find their error. They will be not only willing but eager to know what were some of the sources of the error, they will think out some of them for themselves, you will hear them say, "I don't suppose that I measured the long wire exactly," or, "It wasn't easy to cut off just the right length for an Ohm," and, "My bridge isn't exact anyway because when I reverse the resistances it changes the ratio;" and the careful ones will want to know just what share of the error is due to faulty apparatus and how much is "error of the pupil."

The listlessness of many pupils, after years of school life, is a real grief to the earnest teacher who can but feel that our educational system may be partly to blame for it. Is it our fault that our pupils feel, as one put it, as if there were nothing inside of them but words? Then the laboratory teacher has a rare chance, for here are things, and pupils must do, and see, and tell, as well as listen.

But we ask for one hundred and fifty hours in the physical laboratory, while in many schools the time allowed is much less. What can be done in eighty hours, or fifty, or twenty, if that is all that can be commanded? It seems to me that when the time is short the far better plan is to leave out entirely some divisions of the subject. Then for the first two-thirds of the time make such a selection of experiments as seem best in the particular case, having them perhaps more largely qualitative than when more time is allowed, but again reserving one-third of the time for one subject, and mainly quantitative work. Of the wisdom of this each year's experience makes me more certain. But President Eliot of Harvard University covers the point in a recent address. You will be glad to hear his words instead of mine, he says:

"In some small field each child should acquire a capacity for exact observation, and as a natural result of this acquirement it should come to admire and respect exact observation in all fields. Again, in some small field it should acquire the capacity for exact description, and a respect for exact description in all fields. And, lastly, it should attain, within the limited range of its experience and observation, the power to draw a justly limited inference from observed facts. I need not say that this power of just inference is an admirable one, which many adults never attain as the combined result of their education in childhood and their experience in after life.

Yet democratic institutions will not be safe until a great majority of the population can be trusted, not only to observe accurately and state precisely the results of observation, but also to draw just inferences from those results. The masses of the people will always be liable to dangerous delusions, so long as their schools fail to teach the difference between a true cause and an event preceding or accompanying a supposed effect.

Any one who has attained to the capacity for exact observation and exact description, and knows what it is to draw a correct inference from well-determined premises, will naturally acquire a respect for these powers when exhibited by others in fields unknown to him. Moreover, any one who has learned how hard it is to determine a fact, to state it accurately, and to draw from it the justly limited inference, will be sure that he himself cannot do these things except in a very limited field. He will know that his own personal activity must be limited to a few subjects if his capacity is to be really excellent in any."

We now come to the third division of our subject, "Supervision." This is a matter which depends so much upon the size of the school, number of classes, and ample or scanty supply of teachers that what may be done in one school is impossible in another. Let us once more suggest what seems the better way, but remember that other ways may give good results and that there is always some expedient which the earnest teacher will be sure to find.

Let us first consider the matter of preparation for a class. I speak what I have seen in more than one laboratory when I say that frequently a considerable share of the laboratory hour is used by the pupils in supplying themselves with apparatus for the experiments. In a class of one hundred it may be necessary for each pupil to make frequent trips to the supply room; in a small class it would not often be necessary. For the first few months at least it seems well that all the pupils in a class should be using the same kind of apparatus, doing the same sort of experiments, and the articles may be all at their hands so that the entire hour shall be given to receiving instructions, to actual manipulation, and observation, and the recording of notes.

The apparatus being in place we ask "How large a class shall be given to one teacher?" I believe that a class of not over twelve will receive considerably more benefit from their laboratory work than would a larger number. My pupils have one lecture a week upon their laboratory work. They see then much such apparatus as they are to handle, a careful review of the principles underlying the experiments is given, the explanations are clear and ample. Another day they come to the laboratory, I go through the experiments with one set of their apparatus, they are directed, cautioned, advised, they ask any questions they like as I proceed with the work, and yet,—such a step is there between knowing and doing, that when they come to handle the pieces I cannot do enough for them. It is "which girl needs me most?" If only two or three respond I feel relieved. It is a suggestion here, a question there, a reminder to the forgetful one, a word of encouragement for the timid, for each group of twelve is likely to contain one afraid pupil whose hands are constantly trembling for fear something will break. One need not fall into the error of helping too much.. It is easy to know when to give help and when to withhold it. Have they all day in the laboratory? Then it may be well that they should try, and worry, and break, and become discouraged, losing time and patience; have they only fifty minutes, or at best a hundred? It seems well that a helper should be at hand to whom they may appeal at any moment, and who will give or withhold assistance as seems wise. In my own student days I wasted hours of time which a few words of help or suggestion would have saved, but the helper was not always near. I have heard the complaint from more than one laboratory, and not always coming from those who were dull pupils. When it came about that I had laboratory classes, I highly determined, as the clergymen say, that my pupils should have all the assistance that was well for them, so far as I could furnish it, and the experience of each year as a teacher makes me feel like repeating the vow.

After a few exercises in one subject less assistance may be needed as to manipulation. Now is the time to be quite sure that the pupils see what the experiment means, what are the "justly limited inferences from the observed facts." Watching our pupils the first day that they handle sets of apparatus new to them we see the wisdom of leaving out some entire subjects if time is limited, for not on the first day, nor, if the laboratory hour is short, on the second, will they learn the most, their thought is too much given to manipulation. Only when they are somewhat acquainted with their apparatus are they prepared to make accurate observations and draw correct inferences. My experience is that I seldom shorten the time usually given to one subject, but often decide to give one more exercise than the course calls for.

I have spoken only of the help coming from the teacher and said nothing of a laboratory book. If a year is to be given to the work, and periods are long, it may be well to have a book in the laboratory, my preference is, however, to have all book work done in advance and the pupil in the laboratory brought face to face with the apparatus of which they have studied, and that all help now should be given by the teacher. The book will not discriminate, and tell or refrain from telling as may be wise, but will offer the same assistance to the bright and the dull, the ambitious and the lazy.

Let us turn to the three divisions of our subject. "Shall physical laboratory work in secondary schools be principally quantitative or qualitative?" We answer, principally quantitative. "How long a time should be given to it?" We answer, one hundred fifty hours if possible, but whether this time or less be given, let one-third of all the time be spent upon one topic. "Supervision." Ample, not over twelve pupils for one teacher. If however, we find ourselves teaching in schools where laboratory classes are large, the time allowed for the work short, the apparatus limited and inferior, let us hope for better days when school boards and school principals shall be ready to give to physics some such share of time and attention as are now given to a language, a branch of mathematics or to history, and then, and not till then will they have a right to demand that the laboratory course in physics shall give to the pupils some thorough training in following directions accurately, seeing accurately, telling accurately, and drawing justly limited inferences from observed facts.

MARY E. DANN.

GIRLS' HIGH SCHOOL,
BROOKLYN, N. Y.

THE VALUE OF LITERATURE.*

It is a rather cruel ordinance of fate that the very beauty and fitness of a term should work its ruin. The fitter the term the more eagerly it is adopted and used, until often it becomes hackneyed, and degenerates even into mere cant. The education of the spirit, or the culture of the spirit, is a phrase that has suffered more or less of late, and yet surely it is too noble and significant a term to be abandoned. Who may have originated it I do not know; I first met it ten years ago, perhaps, in a delightful essay by Horace Scudder, and recognized that it expressed something that in my own mind had been standing in need of expression. I like to think that it means something deeper, truer, more fundamental than cultivation. Cultivation is often a very cold thing; the culture of the spirit suggests warmth, color, sympathy, generous views, and noble purposes; the culture of the spirit precludes all mercenary aims, it rises above all merely material ambitions, it makes life worth while. Perhaps it would be true to say that the education that recognizes the culture of the spirit relegates the material, the utilitarian, to its proper place, gives it its due but subordinates it to the higher interests of the soul.

There can be little doubt that in this higher and more ideal aspect of education, the study of literature plays a very vital part. To show adequately how and under what conditions literature contributes to the culture of the spirit would be an impossibility in a brief paper. I ask your attention to three significant values of literature, only, and to the essential conditions under which these values may be realized.

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* This paper was one of several dealing with the general topic, The Culture of the Spirit, read at the New England Normal Council, May 13, 1898.

The most optimistic of us cannot deny that for young people starting out in the world life is full of temptation. The old hymn is not so far out of the way when it says "Ten thousand foes arise." Now every legitimate avenue of pleasure, every source of healthful recreation is so much armor against the ten thousand. The boy who dearly loves a good book is not driven to ignoble pleasure merely for the sake of passing away time. In the old theology it was customary to speak of "the expulsive force of a great affection;" it is one of the great values of literature that it expels—crowds out—the base, the mean, the trivial, simply by the force of its own attractions. Negatively, then, literature works for the culture of the spirit. But it works positively in a far greater degree and in two conspicuous ways: in the first place, it broadens the point of view,—it does, in a way, for the person of narrow opportunity what travel and social intercourse do for those who have wealth and leisure; and in the second place, it helps to supply the ideals that lie at the root of all right action.

To literature, then, we owe the rest and recreation that make it possible to start anew, to live sanely and hopefully; to literature we owe a knowledge of life and manners that results in breadth of view and charms of insight; to literature we owe many of our loftiest ideals of character and conduct. To say the same thing in other words:—through the pure pleasure that it offers, through the wider life to which it opens the door, through the nobler living for which it supplies the ideal and the inspiration, literature contributes to the culture of the spirit.

It detracts not a whit from the glory of literature that there are other studies that contribute to the building up of the higher life and contribute in the very ways that I have mentioned.

As uplifting influences, science and art and music are invaluable, but it is certainly a question whether they are as available as literature for the great majority of people, in our own country at least. Books penetrate everywhere;—good music, good art, facilities for the study of science,—these are much harder to find. History too shares with literature the enviable distinction of broadening the view and of lifting the ideals; but history appeals to fewer people; and, moreover, history in the form in which it reaches the majority of readers *is* literature, otherwise it would never reach them. I do not hasten to read John Fiske's Old Virginia and Her Neighbors because I am especially interested in that period of our history—it is really much more important perhaps that I should be well informed upon the period of the civil war—but I read it because Fiske is a master of English, everything that he touches is full of life and color and human sympathy. Setting aside the genuine student of history, then, it is literary history that people need. With a grateful recognition of all that we owe to science and art and music, to history, and all the rest, I think it is not unreasonable to hold that literature is, for the vast majority, the just resource and the great enlarging and uplifting influence.

But these values of literature remain pure matters of theory unless we arouse and develop in our school children so genuine an interest in good reading that it will outlast the school days, will be indeed so vital a part of their life that they will turn to literature as a matter of course for recreation in their leisure and will carry away from it, equally as a matter of course, intelligence and inspiration for their work.

There are three conspicuous reasons why we do not oftener succeed in accomplishing this very thing for our pupils, a thing that we all recognize as needful and are all willing to work for. In the first place, teachers do not know literature well enough themselves. This is more often true of the normal school graduates in the profession than of the college graduates, although a college graduate who has specialized in mathematics or science is often grievously ignorant of literature. I have come in contact with one such young woman the past year, who by the exigencies of a school program was called upon to do departmental work in literature. Her utter unreadiness for the charge was pitiable. To teach literature the first requisite is literary scholarship and that sort of literary discrimination that comes with training and wide reading.

In the second place, teachers do not know how to interest children in what is good. Here the mere college student fails more often than the normal school graduate. This fact accounts for much of the lifelessness of the high school work in literature. It is of no use to assume that children are interested in what is good merely because it is good from the literary standpoint. This is a very alluring but most dangerous fallacy. The American public, it is said, responds with enthusiasm to a great work of art and with like enthusiasm to a third-rate production. This is equally true of children so far as my experience goes; they respond to the great and the good and the true on the one hand, and to the ordinary and the sensational on the other, provided both contain something that they understand and care about. A young mother marveled that her little daughter enjoyed Hawthorne's Wonder Book and at the same time the Purdy books. She was pleased at the child's discrimination in caring for Hawthorne's exquisitely tuned sentences, and wondered at her equal pleasure in the little stories that could boast no literary distinction. Now the chances are ten to one that the child had no literary distinction whatever. She had instead the interests that belong to most healthy normal children, a strong predilection for the marvelous and a lively human interest in the doings of other little girls like herself. The preternatural, certain phases of nature, and human nature—especially child life and the heroic aspects of mature life,—these are the subjects that almost always arouse and hold the rapt interest of children. The thing in question may be a classic or it may be something that will be forgotten to-morrow,—the unbiassed child is not influenced by these considerations.

Now the teacher's privilege is to find among the classics and in the more modern but enduring works of literature, the subjects that will interest children,—and a very delightful privilege it is. I do not overlook the fact that mere beauty of form, rhythm and melody of words, that is, sometimes attracts and holds a child irrespective of the subject dealt with. This ought to show us how essential it is that a teacher should read aloud well, rather than to lead us into a fallacy so extravagant as the statement that it really makes no difference whether or not the child understands what he is reading.

We fail then, in the first place, because we do not know literature, and in the second place because we do not know how to adapt it to the children's needs. In the third place, we fail because we mistake for a settled taste for good reading a certain schoolroom interest in the lesson, an interest born of ambition to excel, or of a sense of duty, or often of a sense of mere relief in doing something less uninteresting than is afforded by the other lessons of the day. The real test of interest lies in whether or not the child reads out of school and in what he reads. The teacher who has the ultimate object in view will work accordingly. She will not be satisfied with merely teaching a poem in such a way as to hold the class spellbound,—some of us, by the way, are too well satisfied with these mere literary exhibitions; she will say, "The book in which I found that poem is on my desk; you may take it if you like; there are other poems in the book as fine as the one I read you," or—"The rest of the story, which the 'reader' does not give, can be found at the public library. I shall give some of you a chance to tell it to me next week." Indeed, there are a hundred ways of doing it. The point is to recognize the fundamental conditions of a sustained interest. Are they not these:—first, something present and tangible that does attract because it relates itself to something already in the children's minds; second, a suggestion of something more to be attained, something definite and feasible, although not devoid of difficulty;

and third, a sense of achievement, an experience that always stimulates to further effort.

Not only the teaching of the individual lesson but the teacher's general attitude toward the work should be characterized by a recognition of these principles. The thing that interests for the moment and at the same time stimulates to further self-activity, is the thing that becomes a permanent interest. What the child needs in the schoolroom is not so much an occasional lesson in literature excellently planned and well carried out, as a literary atmosphere. This atmosphere is created by that teacher who recognizes clearly and lovingly the worth of literature, who passes on to the children the good things that she knows because she would find it hard to withhold them, and who does it so wisely that the children in their turn understand, enjoy, and long for more.

Guided by the intelligent questions and discriminating suggestions of such a teacher as I have been describing, the pupils find themselves reading history and fiction as if they were living them; every day adds to that circle of acquaintance from which no accident of birth or fortune can debar any one of them. I was really very much touched once to find how real General Nathanael Greene had become to a class of girls who had been studying the Revolution. One of them suggested his fitness for some high office when the new government was first shaping itself. "Why girls," the teacher said quickly, "you did not know that Greene had died even before the Federal Convention was held." A little spontaneous murmur of sorrow passed over the class as if it were hearing of the death of some dear friend. This is the way in which the great names of history should be known; and, as a rule, the characters in enduring fiction become even more real to the reader than the personages of history, simply because their biographers knew them better.

And it is not only history and fiction, with their life and movement, that may be made to carry the young reader with them. The more reflective aspect of prose and poetry—under the same wise and stimulating direction—may be made to add depth and definiteness to the standards of life that are slowly shaping themselves in the young readers' minds. Great poetry read with a sympathetic teacher, opens the heart to spiritual trust and the eyes to the exceeding beauty of the world.

In such an atmosphere as this, children not only thrive for the time being, but their "sense of present pleasure," as Wordsworth so nobly puts it in Tintern Abbey, is truly "life and food for future years."

KATHARINE H. SHUTE.

BOSTON NORMAL SCHOOL.

ON A FUNDAMENTAL PRINCIPLE IN TEACHING ENGLISH.

In approaching a foreign language a student has the advantage of entire ignorance, as well as the disadvantage. But an average boy in our preparatory schools has already such a working knowledge of English as is called into use by recognized, existing needs, surroundings, and standards: this seems to him sufficient. He cannot to any adequate extent anticipate and appreciate another environment and corresponding new needs and new standards in the matter of English, though he would at once say that in France it would be desirable to be able to speak French. In fact, he seldom has a tinkling of a suspicion that there is the least connection between the study of English and his spoken or written words outside the English class-room. At times even the poorer student becomes aware that he lacks power to use language, for he offers the excuse, "I know it but I can't say it". Nevertheless, he has no thought of taking up, in whole-hearted fashion, his English work in order that he may thereby gain a habit of clear and ready expression. He sees no relation of cause and effect connecting English study and power to put into words his own individual thinking. And, in truth, little evidence of any such relation appears in some teaching of English.

The student is sincere in asking, "What is the good of English anyhow?" The question means bewilderment or lack of interest or disgust, and shows that his work in English is irksome, is blindly and mechanically performed. Here is the teacher's opportunity. If that boy or girl reaches an effective faith that the instructor studies English and wishes his students to study English as a means of expression serviceable to the instructor alone or to litterateurs, a result follows that is natural but not profitable. But if that boy or girl acquires a saving faith that the study of English works for a power of expression adapted to his or her own needs and circumstances, a different result may be looked for. Of course the problem for the teacher is not a simple one: he directs a large number of young people with widely varying history and surroundings which he knows but imperfectly, he is concerned with diversified needs of many individuals. Yet he can emphasize the essential fact that all use the same language on the foot-ball field, in oral and written recitation, in debate in the club, in contributions to the school paper; that this language is the medium of expression in "Kidnapped" and in the "Gettysburg Address," and in every book that interests and inspires them; that this language is to be the habitual instrument of communication for each until tongues cease. And mindful that more advanced courses will give more practice in writing than in speech, he can wisely bring into prominence training in the oral use of language.

To be sure these boys and girls are human, fortunately are not given to introspection, and their wills may not respond absolutely and fully to the conclusions of reason. But if the conviction of the availability and dignity of English study may be kept before their attention until it becomes settled and abiding, the teacher may look for a change from the former attitude of boredom. With this active motive some students, at least, will be working in the temper of the artist, not for escape from a finished task, but with delight in the doing and in the perfecting of work. And in their purpose they will come to see the justification of care, accuracy, completion.

To have secured the interest of the student in English courses on the ground that they tend toward results available for present needs is much, it is not enough. An important part of education consists in giving new needs. The English teacher finds one of his opportunities in rousing to a consciousness of richer sources of pleasure and possible higher ranges of activity. Concomitant with such enlargement of view there should be regular, probably daily, practice in the use of both spoken and written English, with the avowed purpose of aiding the student to fulfil higher functions. This practice should have no lower aim than promoting clarity, at once of thought and of expression. If English is viewed as ancillary to other subjects it is because study in other lines is rendered more or less ineffective by disability in the use of the English language. Examples abound. The lectures of a certain scientific investigator of national reputation are notorious for bungling diction and construction. The offering of courses in thesis-writing to candidates for advanced degrees shows that the power to give a well-ordered and lucid statement of the results of investigation is not necessarily a consequence of detailed information or ability to do research work. That a fellow in history in one of our leading universities should be advised by her professors to devote considerable time to reading standard English and cultivating an English style is significant.

In reference to the school-boy's early state of indifference or dislike we noted that his having in English appears to him equal to present needs and standards. The teacher has the opportunity to show him that study of English will be of assistance in meeting existing requirements, and, advancing from that point without loss of continuity, to reveal to him wider needs and greater possible gains from English work. With regard to the boy's standards a different course may be desirable. When previous standards have been false or low, better a short turn and a sudden awakening to the fact that there are other ways of judging. For some fortunate boys and girls home surroundings and previous training render this break unnecessary. But for all there should be one criterion. The work of all should be judged according to the degree of success in attaining a recognized end.

All putting together of words in speech or writing should be criticised as an adaptation of means to an ulterior aim, and this aim should be given and continue to receive prominence both in creation and in criticism. These tests, in some form, should be used: Is the oral or written expression directed toward some recognized end? Is the end worthy of the effort? Is it achieved in the expression? Writing which has a purely utilitarian aim should be judged by a corresponding standard: a letter applying for a salesman's position by its acceptability to a business man. A large proportion of class-work is to be valued according to the clearness and accuracy attained in stating facts, a smaller part from the pleasure in learning or reading.

Not alone the advice of an instructor should show that he looks at the work of students from this point of view, but also his criticism. High school boys and girls, as a rule, are disinclined to analysis of mental processes and will be especially helped by synthetic and positive appreciation. A statement that an account of an experiment in chemistry is clear and exact, or that this funny incident has been cleverly told, or the acknowledgment by the instructor of pleasure or information received from papers or from oral report is courteous and expedient. In his judgment of English work the instructor wishes to avoid fictitious and arbitrary standards: I suggest that as a safe-guard for himself he say to students, "I shall try to read your paper as if it were offered for publication." To carry this out with different individuals he may have occasion to exercise as various functions as those of the editors of "St. Nicholas," of "Outing", and of "The Dial", but the feeling on the part of students that their work can be and is valued by a real, a working standard will give a new impulse and earnestness to all their endeavors toward clear and effective expression.

Surely the preceding cannot be so read as to become a plea for "fine writing." Nothing could be further from the intent. Such criticism as I wish to urge would at once eradicate any showing of so-called "fine writing" and seek to substitute directness, simplicity, and entire sincerity. Here an objection may be raised. Directness, simplicity, and sincerity are rhetorical qualities; and some who speak with authority say that instructors in preparatory schools should, in their teaching, leave matters of rhetoric and style alone. But the art element in speech and even the conscious reference to a hearer are not artificial or dependent upon a formal course in rhetoric. The street urchin and the crowd of youngsters listening to his story know the value of style. Pleasure in creation and in appreciation is a motive power that is ignored only with great loss. Having a fulcrum for your lever, why refuse to take advantage of your possession? Moreover, such qualities as clearness, accuracy, order, coherence, are essential in the thinking of the preparatory student; and in view of the intimate relation between expression and the development of thought the presence of these qualities in his speech and writing is an important feature of his mental life. I cannot understand that any teacher can be guiltless in passing over errors of spelling and grammar in a paper on any subject, nor can I believe that a teacher should repeatedly say by word or by act, "Write a composition in order to be drilled in spelling, grammar, and punctuation." Let there be regular use and constant supervision of written English, but let neither be aimless and mechanical. Even punctuation, viewed as a means to a desired end, becomes worth while. But forced drilling in elements, unrelieved by reference to a larger purpose, and continued after more advanced work could be taken up, has a dangerous connection with arrested mental development.

What has been said thus far in this paper refers obviously to spoken and written English viewed from the side of the individual speaking or writing. A limitation of the field denoted by the term "study of English" to practical and creative, as distinguished from historical, critical, and appreciative study appears to be a growing usage. Notwithstanding, I wish to indicate the application of our principle to the teaching of literature. Subjects and methods of study should at first be selected and adjusted to existing needs and powers of appreciation, and later widened or developed or changed to meet or to inspire larger needs and more liberal standards.

ISABEL GRAVES.
UNIVERSITY OF PENNSYLVANIA.

CHILD-STUDY IN THE ART OF TEACHING.*

I.

One could not have been a close and comprehensive student of the trend of educational doctrine and practice in America for the last decade without discovering signs of notable changes in the prevailing conceptions of education. This was most natural, for the sciences of both man and nature have been contributing to such an end. Modern thought inspirited by manifold successes in other fields has attacked relentlessly the strongholds of educational prejudice and practice. In the lead, the new psychology with dauntless courage initiated the struggle; closely following came physiology, vastly improved by recent research and discovery; then biology appeared with its new evidences and theories; and, finally, a method of thought or a philosophy of life and society, for which no one science is wholly responsible, swung into line. These, in their turn, have assailed and are now assailing, in a combined attack, the traditions and theories of education. Defenders of the old régime are not yet all silenced, but the advocates of the new ideals of education have advanced so far as to spread assurances of victory throughout the length and breadth of our beloved country.

The successes of child-study are the most assuring results of this new war of science now in progress against the combined forces of ignorance and indifference in respect to a newer social order and recent educational ideals. Where unwise practices and false theories have abounded, this beneficent movement has entered, bringing the enlightenment of science with its more humane purposes and more effective means. To the extent that the child has truly become the real object of attention, instead of text-books and appliances, methods and devices, to that extent have our recognition and respect for his needs and rights been growing. Rather than impose upon him a cut-and-dried scheme of education, we are learning more and more with highly improved sympathy and greatly enlightened understanding, to take cognizance of his innate tendencies, natural instincts, spontaneous interests and individual capabilities. Rather than decide *a priori* what a child's total school life should be, in order to produce a certain type of adult as a preconceived final result, we are trying to adjust school influences to recognized culture stages of child life and to adapt the required reactions of the school to the peculiarities of tastes, to individual traits of character, and to the trends of evolution as displayed in the numerous diverse personalities which, by an all-wise Providence, have been picked out from a jumble of things and given a particular mission in the great world life. Under the gracious influence of this movement, science is modifying the motive and method of modern educational thought and practice. The more we learn of the human body, of its growth, health and disease, through comparative physiology and psychology, how it is influenced by environment and how it conditions and is conditioned by the spirit dwelling in it, the more our views of what education essentially is are modified. The deeper our insight into the causes of human progress, into the divine significance of the predestined interaction of mind and matter in the great world evolution, into the development, not merely of physical life, but of the sciences, arts, industries and institutions of civilization, the higher our view of the noble function of all vital educational enterprise. Modern thought has given the world this elevated view-point and enlarged horizon, and the children in our schools are even now reaping a few of the resulting benefits.

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The prominent position given to the child in modern educational thought is unquestionably sound philosophy. The place delegated him under the primitive conception which saw nothing in education but those processes of the school by which he learned to read, write, cipher and spell, was a false one. In the eye of such undiscriminating treatment, children were in the main alike. There were the bright ones, the slow ones, and the mediocre; there were the good and the bad; but no difference, no partiality must be shown; they all alike must be tossed into the same hopper, to be ground in the same way for exactly the same ends. An undiscriminating system reigned instead of an intelligent, sympathetic personality. It is not difficult to see that such a superficial view of education placed no requirements upon the teacher to delve into the depths of the various natures discoverable in pupils, to determine by this means, in order to work in conformity therewith, the fundamental miniature world processes that were working themselves out in these different personalities. Where this formal education obtains fully, who ever hears of the doctrine of interest, of appeals to instincts, of free adaptation to innate or acquired tendencies? With this too limited view of education there went another error: government and supervision, though wholesome elements in well-regulated school life, were regarded as necessary evils. It was thought that teachers must give attention to them, but that in so doing they were departing from the real work of education, and in consequence that the energy thus used was so much loss. With this view it is clear that a teacher would feel no great need of correlating in any very vitalizing way, the work of recitations with the plays, games and social life of recess periods. Neither would he be likely to feel the desirability of uniting instruction and the discipline of management in behalf of moral, social and civic culture. Failing in these two points it is almost certain that he would not hear the call to study his pupils in their social and moral relations, so as to adjust more advantageously the subjects of study to the indwelling demands of the developing life with which he works.

But the child has become the center of interest. He has not been set in our midst as an object of affectionate regard merely, but is to become the corner stone of our educational structure. All views, all practice must be looked at and judged ultimately from his standpoint. The child-idea is a most prominent and active one in organizing all instruction and training. How true is it that old things have passed away and all things become new under the regenerating influence of child life, its needs and aspirations! Before it the errors of our primitive conceptions of formal education fade away as darkness before the dawn. The most advanced thought on elementary education has left behind forever the effete idea that children must spend a major part of their first school years on the formal phases of school work. Let any one who doubts this read the convincing proof in Mrs. Alling-Aber's "An Experiment in Education." Henceforth we who have read shall not doubt that a rich knowledge content can be given at the same time that formal skill is being acquired in the rudiments of learning.

Thus the sciences of life and the recent discoveries of childhood have united in giving us a new education. Its scope is no longer limited to the processes of instruction or to work done within the walls of the school room. Education is universal and democratic; it is as broad as life itself,—it is life. Real educative processes are essentially life processes and it is because we have found this to be true that educational theory of the latter days of the nineteenth century is reaping such rich harvests from the biological achievements of the same era. The greatest problem of pedagogical research to-day is the one concerning nature's method of developing her children. We are asking how strong healthy bodies are produced by natural agencies? how the mind grows best through its spontaneous reactions? how a normal progress is best secured and sustained in the evolution of society and humanity? in other words, how

Providence is training the individual and the race for a higher destiny? We are striving to find how education thus naturally proceeds, in order to know how it ought to be assisted by processes instituted under the reign of ideals emanating from human reason.

Under this broad and ennobling view of education a new order of things is taking its rise. The school, we are told, is no longer to be rightly regarded as a preparation for life, it is so much life itself, and that too a period of which we have no right to rob our pupils. Real living is learning and the truest learning is the highest living. How erroneous, therefore, and how calamitous in its results is that thought which isolates school work so decidedly from real life. To the extent that this isolation obtains, children are withdrawn from the stimulus of nature's environment, made to react on symbols and abstractions of knowledge and are thereby habituated to abnormal and artificial interests and activities. But the notion that school life should conform more nearly to the real is corrective of this. The needs and motives which spring up as the spontaneous product of nature are to be recognized more and more as the impelling forces at work in the school room. Furthermore, the habits of thought natural to children, their normal disposition and customary conduct are to be respected, rather than repressed, as educationally indispensable to that stage of their lives. In consequence, our elementary programs and courses of study are being rapidly reformed. The teacher has come to see the school as an annex to the great world school. With this view his work possesses for him a richer dignity. The program and courses of study seem nothing less than special bits of the great world energies set aside by man for particular manipulation to aid in securing a purer and stronger will and a more perfect spirit both in the individual and in society.

II.

It may seem needless to say that with this great change our conception of teaching is being modified; we have felt a change (1) in our view of the teacher and (2) in our appreciation of the power of science to aid him in his art. Such modifications of thought and attitude toward his work were inevitable. How could the dazzling successes of modern scientific research so change the material surroundings of the teacher and not affect that calling whose particular business it is to promote investigation and progress? How could the new view of life which it is his profession to promulgate fail to take hold of him in so vital a way as not ultimately to affect his own work? It would be most natural that the method of thought and study into which a teacher is trying to train his pupils should eventually influence his own mode of thought and practice. The teaching art should not be the last to be affected by the revelations of modern science. Is the teacher to be "cribbed, cabined and confined" within the narrow walls of the school room and catch no glimpse of the ever-widening horizon of truth? Is his nose to be held too close to the grindstone for him to get the inspiration of, at least, a momentary view over the newly discovered fields of science? If so, then for him our hope is vain. Nevertheless our ideals still persist. There are teachers who have climbed the steeps and have felt the power and joy of this higher living. It has meant to them labor and sacrifice but they have struggled on and, in the struggle, they have surmounted crags, rough and rugged, and are now enjoying the exhilaration of mountain air.

Teachers under the new ideals of education, unlike Goldsmith's Village Schoolmaster, are not to be regarded as traveling encyclopedias; we are to look upon them no longer as dreaded drill-masters. Do not misunderstand me. The demand for increase of learning on the part of the teacher will never grow less and the necessity of drills for discipline will always be upon him. But he must be looked at in a different light. When we find him as he is, or ought to be, we shall see how intimately he is called upon to live with nature as it is embodied in his pupils. Then we will begin to appreciate that teaching is something more than the dispensing of information and the training of faculties. When in the fulness of his own thought the teacher comes really to comprehend himself, he will find his powers engage in no trivial and temporary employment, but working with the unseen agencies of the ages as they have turned up, through the changing shifts of time, in the spirits and bodies of the humanity before him. The teacher in his art must work with these secret life processes, these strong, though silent energies. To do this consciously and intelligently he must discover them by studying his pupils. He is, therefore, to be looked upon as a student,—a nature-student working with the abounding life before him. The modern teacher may not possess extensive learning but he ought to have acquired the habits of a thoroughly trained student of human nature.

In this way the teacher becomes a co-worker with nature. Putting the two great world processes of education and evolution together places the teacher and nature as workers side by side in this upward flux of man, society and civilization. Philosophers tell us that plants work toward an unconscious ideal and that all animal nature likewise is striving toward an unattained goal. We need not be told that man's essential nature is to struggle for the prize of a higher calling. All nature aspires and it is the function of the educator to feel in himself this instinctive impulse, to comprehend this upward tendency and to participate in it. The impulses and instincts, interests and ambitions, traits and tendencies which come and go, wax and wane in the child life before him manifest it. To study its manifestations is, in the noble words of Agassiz, "to become the translator of the thoughts of God," but to cooperate with them is to become a participator in the will of God.

And so, this is the insight of modern education—that nature and the teacher are co-partners in one great life interest, education; and this, the inspiration,—that man, the highest product of evolution is able to recognize his position in the world order, to respond to the possibilities thereby opened to him and in so doing to take upon himself the burden of progress, the perfection of life. Man sees working in him and his kind these divine energies, physical and spiritual. He sees with the Psalmist that man is "fearfully and wonderfully made". As he surveys the work of evolving energies and contemplates how the unseen artificer in his endless secret has curiously wrought out the "formless into forms of beauty and power", he discovers himself to be a creature fashioned in the image of nature. Thus beholding his sphere he catches a new glimpse of his possibilities as a teacher and takes up the task of nature, the education of man. He looks upon work in nature as the will of God and he is inspired to set about his Father's business with a new zeal and devotion for the redemption, or freedom, of the world through education.

Besides this modified conception of the teacher's work, as said before we are acquiring more faith in the power of science to aid the art of teaching. This is in no wise strange. No other era in the world's history has shown such indefatigable aspirations for new truth in any and all spheres of intellectual activity and such irresistible determination to turn it into the immediate service of art. It is reasonable, therefore, to believe that science is on the verge of revealing greater things for the art of education than we have hitherto experienced. Does the child-study movement warrant such a faith? Certain it is that science will not need to tarry long, knocking at the school door. This beneficent movement manifests conclusively that teachers are waiting open-minded for whatever assistance it can offer. In the past we have been at fault even in our training schools. Science has been treated as something to be taught only and not as a body of truth waiting to be put to service in the art of instruction. There appears to be one exception to this. We have honored psychology by admitting it on our normal school programs as a professional study. But in doing so we have implicitly characterized the rest of science as non-professional. Is this right? Should not all science worthy of attention by teachers, if presented properly, aid them professionally? We have seen that it helps to define for one the general conceptions and theories of education. Can it not contribute something to the art? My belief is that the study of children will very presently answer this question in the affirmative.

It will indicate (1) the possible kinds of practical child-study work to be carried on by teachers and (2) the various methods of practical research to be applied; furthermore, training in science will aim (3) to give habits of observation and reflection which will prove advantageous to the teacher and (4) to qualify him to discern, somewhat more clearly, the possibilities of his art in the individual boy and girl. To this end both the physical and the mental sciences are being called upon to tender their contribution. The day is past when psychology only will be drafted into the service of the teaching art. Nothing is more apparent to one who is keeping pace with the literature of child-study than the fact that ethics, social science, physiology and biology are being, likewise, pressed into this practical service.

Science is destined to give new ideals to an old art. Psychology, especially genetic psychology, has given our attention a new perspective. It has led us to look upon children at a new angle and with new means. Physiology, too, is offering its services and demands to be studied in a way that will finally aid the teacher in the study, care and culture of the bodies as well as the minds of children. Moreover, biology is furnishing a body of ideas, motives for research and methods of thought until recently undreamed of. Likewise, sociology is enlarging our thought relative to the demands and purposes of culture, to the nature and possibilities of social improvement, to the circumstances that surround children, to the innate and instinctive tendencies of the social side of childhood and, through all this, to the need of the teacher's informing himself on the social peculiarities of his pupils individually. Thus the searchlight of science is industriously struggling to illumine some of the darker places. Under its transfiguring enlightenment, child-life will make new appeals to us. We will need to revise our aims and attempt new things. A broader intelligence, a more diverse interest and greatly improved facilities for the study of children, will unquestionably contribute a new impulse to progress.

III.

Such improved views of the teacher's art, emphasizing the presence of life processes, of environment and heredity as essentially educative factors with which it must reckon, and such valuable assistance as is now being offered by science will not fail to influence teaching purposes. Science will be brought to affect the art in very definite ways and for set ends. It will not only lead teachers to study their pupils from more numerous points of view, but the knowledge thereby attained will give depth and variety to their teaching aims.

We can now reasonably stop for a while to enquire more specifically how the actual work of instruction and training may be affected. It is not enough to have our attitude toward the profession of teaching changed. Our actual conduct must also be affected. Art is not mere contemplation. It contains more strongly the elements of application, of execution. Art is preeminently will at work.

If the study of children, induced by the new era of scientific advancement, is to influence the art of teaching, it must concern itself in some measure with one or more of the many points of contact between the teacher and pupil. It is clear that whatever child-study a teacher is asked to carry on, and whatever knowledge he can thus acquire ought to aid him in his most important duties. A rough analysis of these duties may be, then, of some value to us. They are as follows: (a) to select topics, subjects and exercises, in constructing the curriculum, that would be most readily adjusted to the particular needs of the pupils; (b) to instruct with the consciousness that the materials of instruction used in the recitation are wisely adapted to the experiences of the pupils; (c) to classify pupils and to assign lessons appropriate to their capabilities of mind and body and their various opportunities; (d) to promote such bodily discipline and mental training as will harmonize with individual peculiarities; and (e) to give personal advice and direction to pupil on points of personal hygiene with reference to health, habits of study and general conduct.

By reviewing these items point by point, it will readily appear that not only a general knowledge of childhood, not merely vast contributions from science, but very definite knowledge for very specific purposes, peculiar to the individual pupil, is needed. As already intimated, it is the duty of science to help us feel the need of cultivating a deeper personal acquaintance with our pupils and to indicate to some extent how this should be done. I am well aware that this relation of science to art is somewhat ideal but it is not objectionable on that account. In some matters we are permitted to "deal in futures." It is worth while now and then to withdraw from the confusion of actual engagement to catch a glimpse of the way we are trending and to estimate progress.

It is furthermore implicit in the foregoing statement of the function of the teacher that he should be continually conscious that he is dealing, not primarily with books, devices, and school appliances, but with given powers and processes of actual living organisms, in which forces are at work peculiar to their individual inheritance, experience, environment, and development. It is with these living, moving and growing personalities that the teacher deals. All else is means.

Under this thought we are led to represent the pupils to ourselves as bodies of activity or as centers of energy with which the teacher should become acquainted to work in consonance with them for educative ends. Teaching processes are derived from and are made to conform to life processes; education gets help from evolution and evolution finds in education a worthy co-worker. What are these influences whose acquaintance and friendly graces the teacher should cultivate?

Most of us will agree that heredity is at work. Children having peculiar aptitudes and propensities are more numerous than we believe.—Nothing is clearer and more certain than the fact that memory images are stores of energy. This is the message of the doctrine of apperception. President G. Stanley Hall's study on "The Content of Children's Minds on Entering School" conclusively demonstrates the necessity for examining into their stock of workable ideas.—Brain states and growth condition mind states and growth. Hence success in school is determined in part by the state of health, the normal functioning and degree of development of the central nervous system; the power of the senses, motor ability, and the conditions of fatigue and nutrition have been admitted as items of no little concern. The teacher, therefore, should not give her attention exclusively to the spiritual forces. The entire child is subject to her beneficent care. Schools have too long been regarded as institutions for the training of the intellect alone. This false and very pernicious notion should be very rapidly extirpated.

But the physiological functions and growth are conditioned in their turn by the physical environment. To some extent the teacher can control this, especially in the school room. We must attempt to adjust seating, heating, lighting, ventilation to the varying needs of the pupils. This requires study. Some teachers have not thought so, and children have actually suffered evil consequences as well as mental reversals. A teacher always takes a significant step when he realizes for the first time that power of attention to school work is conditioned by these physiological and physical accompaniments of all mental action.—In addition to the physical, pupils have also a social environment. These social energies are impressing them from all sides, setting up tendencies of language, manners and morals to be dealt with by the teacher. More than this, they are the source of many an error and habit which sticks by a child with unseemly stubbornness, and often of warped views and feelings toward life, society and institutions which cling to him with undesired familiarity and persistency. And so it becomes necessary for the teacher to study the family and community life in which his pupils have lived to get insight into those reactions which have engraved themselves so ineffaceably upon the pupils' nervous systems and mental constitutions. It is needless to say the pupils should be studied directly to ascertain the habitual social instincts, traits and tendencies which the teacher should know about in order to conduct instruction and training in a proper manner.

But as before indicated, the results of the study of children by teachers must not end in mere knowledge of them. Ideas acquired in this way are not to be stored up as idle capital. The only justification of the use in this way of the valuable time employed by busy teachers is that the result can be put readily into service. The teacher, as such, has no time for the problems, methods and data of the scientist. These become of interest to him only through a process of conversion. Only that which is subject to more or less immediate educational interpretation can rightly claim the attention of teachers. Hence we may inquire with what attitude of will should teachers undertake the study of children to make it of the highest service to his art.

The most frequently reiterated rules of the new education require the teacher to keep in closest contact with the experience of his pupil. Since whatever gets into the understanding must enter through the gateway of the senses, instruction, it is argued, should start with sense experience. Again, since all learning consists in linking new images and ideas to old and earlier acquisitions, instruction must proceed on the basis only of previously acquired products of experience. Furthermore, since the facts of school room instruction are of real interest and value to the extent that they are consciously related by the pupil to the familiar facts of life, it is the duty of instruction to seek to establish numerous vital relations between new acquisitions and the facts of the pupil's experiences. The great word of modern pedagogy is experience. It is the key word to the three principal rules of good teaching. These I have just suggested. They may be formulated as follows: (1) In instruction, start if possible with sense experience; (2) proceed carefully to a right understanding of new ideas through the recall and use of former experiences; and (3) give ideas permanency and strength by establishing significant relations between them and the facts of experience. No one who is at all fundamentally acquainted with the intent and spirit of a single vital principle of the new education, will, for a moment, doubt that the teacher's primal duty is to start with and stay by the pupil's former experiences. The Alpha and Omega of instruction and training is the child's own experience.

But this is not the whole truth. Another ideal of recent pedagogy is now commonly agreed to. The experience of the child is very limited. His life is at best but a small circle. The sphere of his mental activity is correspondingly circumscribed. The school must not check the normal enlargement of this sphere. It is the duty of the teacher not simply to use the experience of the pupil but to extend it, to give it more significance and interest. In agreement with this ideal that the school is an annex to real life, to extend and to enrich it by means of the superior influence of a teacher, we have been rapidly reshaping our elementary curriculum by introducing nature study, history, literature, language lessons, manual training and other studies. We must not only keep near to experience but continue to extend and to enrich it As argued earlier in this paper, the processes of thought and action, of development, mental and physical, which go on in the school room should correspond closely to similar processes in real life. This requirement is now commonly admitted in both theory and practice.

The logical requirement and practical necessity of this admission we have not so quickly seen. This recognition of experience clearly and unmistakably involves a constant study of the pupils' past and present experiences, physical and mental. We have been somewhat tardy in conceiving this imperative requirement, but the child-study movement is enforcing it upon our attention.

Pedagogical advancement on the basis of this doctrine of experience can take at least three important directions: (1) It can point out the kinds of knowledge relative to a child's experience which a teacher ought to possess; (2) it can proceed to show how he should attempt to acquire this information; and (3) it can indicate some of the ways this knowledge should be utilized in the art of teaching. I have already suggested in a crude way some general points under the first of these items; time will not permit even so hurried an elaboration of the second and third. These must be left as problems.

However, you will see the consistency of this, for you can feel with me how problematical all child-study is and especially child-study for the teacher. The whole movement is constituted mainly of unsolved problems. There are those engaged in this work so radical as to say that there is, at least, but one thing settled, namely, that all rules for the art of teaching should be unsettled. If I understand them aright, they recommend a complete revision. But practically, at any rate, most exponents of child-study are more conservative. The past presents to the present a wealth of inheritance which we cannot prudently ignore. Try howsoever hard we may to escape, the influence of history will stay by us. The very philosophy of life on which modern education seems to be built necessitates a development consistent with earlier stages as their natural outgrowth.

Consistent then with the general situation, I shall end as I began with the unsolved problem of the relation of child-study to the art of teaching still before us. Perhaps it can be made more definite by saying it does *not* relate to the discovery and formulations of new principles but to a more thorough interpretation and effective application of old ones. Child-study for the teacher at its present stage of progress should aim to enforce more effectively the educational ideals of this closing decade of the nineteenth century. I have expressed a belief that under the new conception of education and the new contributions of science, the new art will be greatly changed, but a new one is not to be constructed, at least not in these ten years. We must await patiently the contributions of scientific research in this newly opened field. How great its final achievement, no one to-day would hardly be bold enough to prophesy. Meanwhile the public school teachers of our country enjoy a broader enlightenment and more effective endeavor in the practical field. This increased intelligence, deepened sympathy and intensified devotion for the education of man will prove its own reward. Under the influence of the child-study movement the teacher is encouraged to remain a student. Is it in the heart of man to conceive a greater boon? The benign influence of this blessing is destined to reach eventually the very heart and home of every school-going child in America.

LOUIS H. GALBREATH.
UNIVERSITY OF BUFFALO,
BUFFALO, N. Y.

NEW BOOKS.

NEW BOOKS ON THE SOURCE METHOD IN HISTORY.

The growth of interest in the teaching and study of history shows no signs of abating, if one may judge from the recent educational meetings. The point of view seems to be shifting somewhat. The victory for more history in all grades of work seems about won. At least educational people seem to have given an intellectual assent to this demand, and interest among teachers is now shifting to the question of method. While a body of teachers may be in entire accord as to the importance of more and better work in history, they will go to pieces when the question of method is raised. This result is sure to follow if the "source" method is under discussion. Just this occurred at the Poughkeepsie meeting of the colleges of the Middle States and Maryland, and at the Cleveland meeting of the American Historical Association last December. At the former meeting there seemed to be a purpose on the part of some to discredit the "source" method by calling it the "Nebraska" method, and by saying that its author was "one Mary Sheldon Barnes." This attitude toward a serious problem was not only unfortunate but entirely unscientific,—particularly unfortunate when we remember that no woman in this, or any other country, has done as much for the promotion of genuine interest in the problem of historical method as Mary Sheldon Barnes. Whatever we think of any method of history work, it should never be forgotten that her studies in General and American History and in Historical Method are truly pioneer works, and have furnished to thousands of teachers the first tangible proof of anything better than assigning and hearing recited so many pages of history text.

The value of the source method as set forth in Mrs. Barnes's works is being thoroughly tested in Nebraska. The effort to introduce this work began in 1892 by circulars to teachers explaining the nature of the work, sent out from the University of Nebraska by the Professor of European History, Dr. F. M. Fling. But the campaign began in earnest in 1896 by lectures by Professors Fling and Caldwell before the newly organized Association of History Teachers of the State, but particularly through a series of monthly papers by these two men, explaining and illustrating the work by this method for both European and American history. The success of the effort led to the publication of these papers in a book of 336 pages, by J. H. Miller, Lincoln, Nebraska, entitled *Studies in European and American History.* The "studies" for 1897-98 will also be published. Nine-tenths of the Nebraska high schools now use the source method, and the enthusiasm has become so contagious that some of the adjoining States are taking up the work. This missionary spirit of Professors Fling and Caldwell might well be imitated by university teachers of history in other States with incalculable benefit to history work in all grades. At least the efforts of these men deserve the serious study of history teachers everywhere.

One of the strongest proofs that the use of the sources in history teaching is taking a deep hold on teachers is found in a new work on American history, by Professor A. B. Hart of Harvard, published by The Macmillan Company and entitled *American History told by Contemporaries.* The work is to consist of four volumes. If the first volume, the Era of Colonization, is an index of the remainder, the whole will constitute, by far, the richest mine of original documents yet made easily accessible to every teacher and student of American history. The Era of Colonization is a volume of over six hundred pages, containing a discussion upon the use of "sources," and over one hundred and fifty documents relating to the period between 1492 and 1689. Part V. is devoted to New England and contains over fifty documents distributed as follows: seven to "Conditions;" eight to Plymouth; eight to Early Massachusetts; four to Rhode Island; six to Connecticut and New Haven; four to New Hampshire and Maine; ten to New England's Development; thirteen to New England Life.

The Macmillan Company publishes another valuable book of sources: *Select Documents of United States History*, covering the time from 1776 to 1861 and containing over one hundred documents, mainly devoted to illustrating our political history. To each document is prefixed a short sketch of the circumstances attending its origin. The author is Professor William Macdonald, of Bowdoin College.

It thus appears that teachers and pupils will soon be furnished with an abundance of original material for teaching by the source method. That the use of sources by pupils will, in itself, insure good teaching in history can hardly be claimed by the strongest advocates of this plan; but that it has some distinctive advantages, few of its opponents will deny. What is needed now is some impartial teacher, equally skilled in using the sources and in using narrative texts, who will show us exactly what results in common can be accomplished by the two plans, and exactly what results can be worked out by each that are peculiar to it.

NEW TEXT-BOOKS ON AMERICAN HISTORY.

Notwithstanding the growing strength of the movement toward the use of sources in teaching history, the publication of new text-books on American history shows no signs of abating. Among these new texts, the one by Professor McMaster, published by the American Book Company, has been received, at first sight, with great approval. This not only shows that the book has many excellences but attests the general favor in which its author is held by American teachers.

It is interesting to compare McMaster's distribution of material with that of John Fiske. Exclusive of the appendix McMaster has 476 pages and Fiske 418. The former gives but 26 pages to the history before Virginia is reached, while the latter devotes 58 pages—more than twice as much—to this phase. The difference is still greater when we remember that McMaster's book has 58 pages more than Fiske's. The former gives 109 pages from the beginning to 1763, while the latter uses 180 pages. Their nearest approach is in dealing with the Revolution: McMaster 64 pages and Fiske 72 pages. Their divergence is striking for the period from 1790 to 1815: McMaster 84 pages and Fiske only 44 pages. Not only is there a difference of 40 pages, but McMaster now leads, while in the former cases Fiske had a decided lead. From 1815 to 1860 McMaster uses more than twice as many pages as Fiske, and from 1860 to 1893, 28 pages more.

Two other new texts are Principal Wilbur F. Gordy's, published by Scribners, and Charles Morris's by Lippincott. The former will attract favorable attention not only on account of its rich illustrative material, but because of the large number of stimulating questions and directions given to the pupil. Morris's book has no list of suggestive readings and no list of stimulating books. With reference to the distribution of material Gordy resembles McMaster and Morris Fiske.

These comparisons are suggestive. Why should two great historians like Fiske and McMaster differ so radically as to the relative value of the material of American history? On what principle, if any, have these authors selected their material? McMaster is the only one of the four authors who gives a reason for his selection of matter. He asserts that he treats "the colonial period as the childhood of the United States." No doubt the other authors would accept this figure of speech, as such, but whether they would agree as to its value as a principle of selection is very doubtful. The best pedagogical thought of to-day insists that the intellectual and ethical wants of the pupil, rather than the relations between subject-matter, should have primary consideration in the selection of material and the distribution of emphasis. This seems to be a valid principle for history work below the high school. However, the selection of material for the high school phase of history work may justly lay equal emphasis upon the nature of the subject matter and upon the mental stage of the student.

This brings us to a text on American history for high schools and academies written by Professor Edward Channing and published by The Macmillan Company. Here is a pioneer work. Few authors have turned their attention to American history for the secondary schools. The average graduate of the high school has not studied his country's history since leaving the grammar school. This is most unfortunate if one consider that these graduates may pass through some state normal schools into the ranks of teachers of American history, with no higher view of the subject than that obtained from the grammar school text. All teachers will welcome Professor Channing's effort to stimulate this phase of the work. In the execution of his plan, it is clear the author had in mind that the maturer life of the student of the secondary schools calls for something more than simply a fuller narration of events already more or less familiar. In the main he has written under the conviction that a deeper insight into events and institutions should dominate this phase of the work. Still, one wishes that the origin and growth of institutions had been made more prominent, and the narrations and descriptions of events had been viewed as a means to this end. The student's attention would then rest upon the movement of institutional ideas, while now it may rest on the occurrence of events. In a few instances, like the expedition of Coronado and the Huguenot colony in Florida, one is reminded of a grammar school text. These men and events touched our life in the most remote and superficial way, yet three or four pages are devoted to them, while as many lines would have sufficed. Fortunately very few of the 600 pages are so poorly used. However, the work is so well done both in its point of view and in the selection and arrangement of its material that a few minor criticisms ought not to obscure its greater and more fundamental merits.

* * *

A volume whose excellence as well as timeliness justifies its existence is *The Development of the Child*, by Nathan Oppenheim, M.D., of the Mt. Sinai Hospital Dispensary. This volume is another indication of the growing interest among well-trained physicians in the study of the conditions of the physical and mental development of children, and the frequency with which these contributions to our knowledge of the facts of child-life are now being made lead to the hope that in spite of the conservatism which still prevails in the teaching-ranks there will soon be a recasting of our conceptions of the development of children. Dr. Oppenheim shows himself a careful and judicious investigator, and is happily free from the hasty generalization which makes useless so much of the literature dealing with the facts of child-life. From the headings of the chapters of the volume, it is seen that topics of the most vital interest are taken up in the course of the discussion: (1) Facts in the comparative development of the child; (2) comparative importance of heredity and environment; (3) the place of the primary school in the development of the child; (4) the place of religion in the development of the child; (5) the value of the child as a witness in suits at law; (6) the development of the child-criminal; (7) the child's development as a factor in producing the genius or the defective; (8) institutional life in the development of the child; and (9) the profession of maternity. The author's style is clear and definite. The Macmillan Company.

* * *

In scholarly editing and tasteful book-making *The Athenæum Press Series*, under the editorship of Professor G. L. Kittredge, of Harvard University, and Professor C. T. Winchester, of Wesleyan University, is the most satisfactory edition of English classics for the use of the student or general reader that has yet been undertaken in this country. Each volume is provided with biographical and critical introductions, full explanatory notes and other necessary apparatus for a full understanding and appreciation of the text as a literary masterpiece. An example of the scholarly editing of this series may be seen in the volume of selections from the poems of Wordsworth, edited by Edward Dowden. It would be hard to find a better piece of critical writing than Professor Dowden's introduction to this volume. Ginn & Company.

* * *

Students of French literature will find much to interest them in *French Literature of To-Day*, by Yetta Blaze de Bury, who has given us a series of striking literary portraits of the leading French writers now living. Among the writers who are portrayed are Pierre Loti, Guy de Maupassant, Edmund de Goncourt, Paul Bourget, Ferdinand Brunetière, Jules Lemaître, and Paul Verlane. The author shows the instinct of the true critic and presents a more sympathetic treatment of contemporary French literature than we have yet seen in English. Pp. 279. Houghton, Mifflin & Company.

* * *

Practical Ethics: a Collection of Addresses and Essays, by Henry Sedgwick, Knightbridge Professor of Moral Philosophy in the University of Cambridge, is a book which forms part of the Ethical Library, a series of popular studies on ethical subjects by well known writers, which is appearing under the editorship of Professor J. H. Muirhead. The volume by Professor Sedgwick is chiefly a collection of addresses made before the London and Cambridge Ethical Societies. These have all the characteristic traits of the author of *The Method of Ethics*: thoughtfulness, impartiality, a patient tracking of the subject in hand into all the byways, and not infrequently the absence of any definitive conclusion. The most interesting of these papers are those on "The Morality of Strife," "The Ethics of Religious Conformity," and "Luxury." As in most discussions of practical ethics the sum of the whole matter amounts to the statement that "it depends on circumstances;" yet the reading of such discussions written by a man of Professor Sedgwick's earnestness and candor cannot fail to deepen one's sense of the reality and difficulty of the problems involved. The Macmillan Company.

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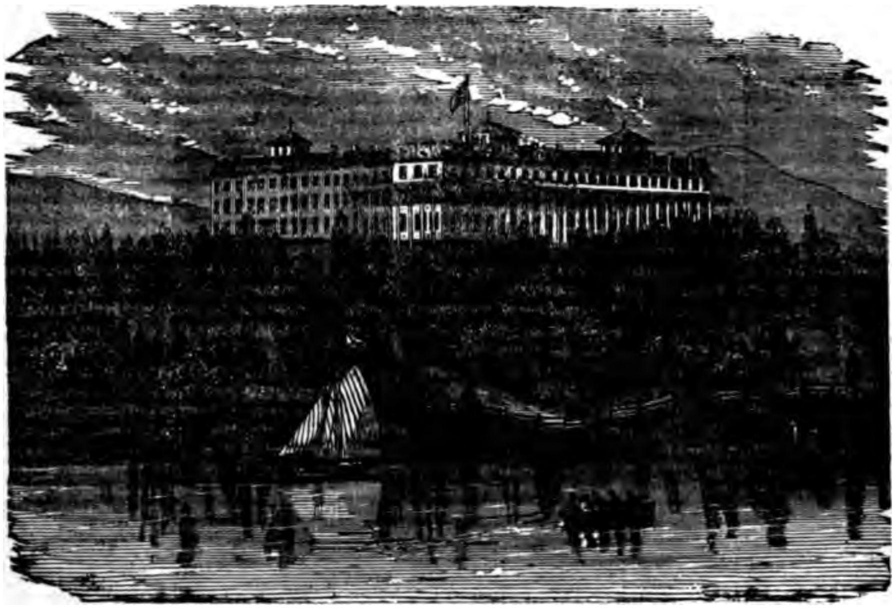

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JOURNAL OF PEDAGOGY.

The issue of the JOURNAL OF PEDAGOGY for October, 1898, completes the eleventh volume of the magazine. It has been the aim of the editor to conduct an educational magazine solely in the interest of sound education and correct teaching, and that there is a place for such a journal is shown by the cordial support the publication receives from the educational leaders of the country.

Professor M. V. O'Shea, University of Wisconsin, says: "I have become very favorably impressed with the high character of the editorials and contributions of the Journal of Pedagogy. It occupies a dignified and exalted position in educational journalism in our country, and I wish that every one interested in the problems of modern education,—teacher, parent, and citizen,—might have opportunity to peruse its pages. One may be sure to find educational matters discussed in this journal in a broad, scholarly fashion, and at the same time in a cultured, pleasing style, characteristics which pedagogical writing too frequently lacks."

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Journal of Pedagogy.

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GOOD HIGH SCHOOLS NECESSARY.

Good high schools are scarcely less necessary than elementary schools. The popular illusion that the elementary schools are independent of the high schools has done incalculable mischief. There is, however, no longer any hostility in most sections of our country toward the maintenance of high schools at public expense. The worst that can be said of public sentiment is that there is not a high enough appreciation shown of the influence of these schools in determining the character of the lower schools. There is a sentiment in some communities, otherwise intelligent, that the elementary school must support the high school, and that the high school must support the college and university, whereas the first in time, the first in rank, and the first in necessity is the university. It is clear, it seems to us, that the only condition of having good high schools is to have good colleges and universities, and that the only condition of having good elementary schools is to have good high schools. The ideals of scholarship and culture that prevail in most communities in this country are such as the high school sets before its students from year to year. For years to come in this country the majority of the lower-grade teachers will secure their academic education in the high school. It is clear, then, that in this way the high school exerts a profound influence upon the educational interests of our country. Dealing as it does with youth at the momentous period of life when intellectual enthusiasms are beginning to manifest themselves, the high school has a tremendous significance in our American scheme of education.

THE EQUIPMENT OF THE HIGH SCHOOL TEACHER.

It stands to the credit of the present superintendent of public instruction in the state of New York that there is now demanded of all teachers below the high school grade a well-defined equipment, both in point of scholarship and professional training. But the law, far-reaching for good as it is, does not go far enough. The next step must be in the direction of fixing by law a worthy standard, both of liberal scholarship and of professional training, for the high school teacher. In many communities public sentiment is already demanding well-trained men and women for teachers in their high schools, but on the whole the degree of scholarship and culture demanded of the teachers in these schools is far too low in many parts of the United States. It is not an easy task to make public opinion realize that the work of the high school teacher requires an amount of natural ability and a degree of general and special training of a very high order. Legislation, we must concede, can not in itself bring about an educational Utopia. Like all higher forms of growth, educational growth is slow and halting, and a growth out of past conditions and products. But wise legislation, as experience has often demonstrated, can, however, hasten our progress toward better things, and that state which shall first fix by law an adequate standard of scholarship and pedagogical preparation for admission to the teaching ranks of its high schools will give a strong impetus to the cause of sound scholarship and correct teaching in our secondary schools.

NEED OF HIGHER SCHOLARSHIP IN OUR HIGH SCHOOLS.

To bring a wholesale indictment against the teachers of our high schools would argue a woeful lack of knowledge concerning the actual condition of these schools. It would not be difficult to find schools in whose teaching-force are men and women of the most thorough scholarship and of the most generous culture. But after making due allowance for the high degree of scholarship found in many high schools throughout the United States, it is entirely within the truth to say that there are too many schools whose students are denied the blessed influence of that scholarship and scholarliness which enlivens and broadens the set lessons of the classroom. Drill-masters we find a plenty in our high schools, but teachers who are able to throw off the belittling bondage of the text-book are not so numerous as the best interests of these schools demand. A high school teacher needs to bring to his work that nicer discrimination of a broader culture which will enable him to distinguish between the essential and non-essential in matters of scholarship. Even in the high school there are heights of scholarship which tower above the little technicalities of the text-book as the mountain above the foothills, and it seems to us that it is the plain duty of the state to insist that the intellectual furnishing of every high school teacher should be ample enough to enable him to lead his pupils to a broader and more enlightened knowledge than that circumscribed by the classroom manual. Narrowing is the influence of that school whose teachers do not breathe into the daily drudgery of the classroom the breath of a scholarly and cultured life. But all this is commonplace, it may be said, but it is a commonplace which cannot be uttered with too much insistence.

THE EXTENT OF A HIGH SCHOOL TEACHER'S PREPARATION.

It is impossible to embody in any statute all the elements that enter into the qualifications of the successful teacher. President Schurman has, it seems to us, put the matter rightly when he says that the only safe rule is, that the teacher in a primary school shall have had a secondary education and that the teacher of a high school, academy, or normal school must be a college graduate. The practical observance of this rule, he continues, would do more than any other single reform, not only to dignify the teaching profession, but to elevate and improve the schools. The purpose of the high school, like that of the college, is general culture, and it follows that the methods of work should in general be the same in both. The essential difference consists in the advanced character of the work done by the college. In our judgment, the high school teacher should have as his minimum equipment a training that shall be in all respects the equivalent of a four years' college course, so far as scholarship is concerned. It would be better if there could be a year or two of post-graduate work in some special line. For high school work extreme specialization is not desirable, but to the back-ground afforded by the disciplinary and liberalizing influence of a college course there should be added a more or less extensive acquaintance with one or more special departments of knowledge, and our high schools will rise into the clearer and more life-giving atmosphere of a liberal education in proportion as their teaching-force is made up of men and women thus broadly trained in the methods of exact scholarship.

TRAINING IN PEDAGOGY NECESSARY.

But however ample the scholarship of the high school teacher, his equipment should be considered incomplete without a thorough professional preparation. This preparation should cover at least two years' work in a school of pedagogy or in the pedagogical department of the college. Without entering into a detailed discussion of pedagogy as a science and an art, it is clear to us that the question as to the value of pedagogy as an essential element of the teacher's preparation is as far above argument as is an axiom of mathematics. Lack of an acquaintance with even the theoretical aspects of pedagogy renders the first year's teaching of many college graduates virtually worthless and often prevents them from ever getting a clear conception of the nature and end of educational processes. What is most needed by the intending teacher is a point of view, and this point of view is furnished by psychology, which must furnish the basal principles of the pedagogic art. Pedagogy not only gives the teacher definite notions of the ends of education, but ascertains for him the laws and principles underlying the best methods of reaching these ends. The value of any method consists in its conformity to the laws of the mind, and it seems only a reasonable inference that the utility of the processes and methods employed in teaching will be vastly increased if they are studied in close connection with psychology. But pedagogy does something more than show the teacher the best methods of teaching a given subject to a given pupil. It tells why a given subject is taught, and determines for the teacher the value of the different kinds of knowledge. No high school teacher can do good work, we hold, who does not add to his knowledge of a given subject well-defined and intelligent reasons for teaching it, and these reasons he must obtain as a part of his pedagogical training. It is our deliberate conviction that next to thoroughness and breadth of knowledge, the high school teacher needs an understanding of the vexed question of educational values, unsettled as this question is in it present stage.

DR. ANDREWS AS SUPERINTENDENT OF THE CHICAGO SCHOOLS.

Few events in the educational world have called forth more comment, favorable and unfavorable, than the election of Dr. Andrews, of Brown University, to the superintendency of the public schools of Chicago. While it is to be regretted that political considerations rather than the interests of the schools led to a change of superintendents, yet there is cause for rejoicing that, since a change was inevitable, a man like Dr. Andrews was chosen to direct the educational interests of so large a city, for it is an unfortunate fact that there are not enough men of high scholarship and broad views on educational matters at the head of the public school systems of the larger cities of the country. Owing to the unfavorable conditions which prevail in most of the larger cities, the superintendents of schools are unable to exercise anything more than a perfunctory control over the schools under their charge: and for this reason the position of superintenddent of city schools has failed to attract men of as high a grade of scholastic and professional equipment as the good of the schools demands. When the name of President Gilman was considered in connection with the superintendency of the New York City schools a few years ago, there was a strong desire on the part of the friends of educational reform throughout the country that this eminent college president could be induced to accept the task of conducting the educational affairs of the metropolis, because it was believed that his acceptance of the position would tend to give added dignity to this position everywhere. At the same time a work of inestimable value would be done in the direction of effecting those reforms in our public schools so long needed. Only men of splendid executive ability in union with broad scholarship and an understanding of what our public school system should accomplish in our civilization, can set in motion those influences which will increase the educational and cultural side of our schools. Dr. Andrews, we believe, belongs to this class of men. He has, besides great learning and strong executive ability, the courage of his convictions, and no influence which the board of education can exert will deter him in the least from doing what his judgment dictates to be for the good of the schools. Dr. Andrews, while showing due respect for the opinions of others in the administration of the educational affairs of Chicago, will, we predict, not hesitate to oppose the members of the board of education in matters of which they are ignorant and in which they have no right to interfere. Whether he will in the end win the victory, we are not so sure, but it is safe to predict that the people of Chicago—including the board of education—will get a fuller conception of what are the functions and prerogatives of the position of a superintendent of schools during Dr. Andrews's term of service than they have had before. This result will be a direct gain not only for Chicago but for the whole country.

PRESIDENT ELIOT ON EDUCATIONAL REFORM.

Next to Butler's *The Meaning of Education*, President Eliot's *Educational Reform*, just published by the Century Company, is the most important educational book of the year. In this volume are collected those essays and addresses in which President Eliot has been so earnestly urging various educational reforms in school and college for the past thirty years. In spite of the slow progress of educational reform there has been an immense advance toward better things since President Eliot began his work in eighteen hundred and sixty-nine; and while it would not be strictly true to say that all the progress since that time is due to the efforts of any one man, yet no one acquainted with the educational history of our country during the past thirty years will hesitate to attribute to the influence of this remarkable man a large measure of the beneficent changes that have taken place during this period. He has had more to do in giving direction to the development of higher education in the United States than any other man, and at the same time the agitation begun by him in behalf of the enrichment of the grammar school program has already effected significant changes for the better, and has set in motion influences that will eventually lead to a complete reorganization of the scheme of elementary education in this country. The publication of these essays and addresses will lead to a still wider acceptance of his views. Among the subjects that receive attention in this volume are the teacher's tenure of office, liberty in education, the enrichment of the grammar school course, the gap between the common schools and colleges, the aims of higher education, the elective system, undesirable and desirable uniformity in schools, the unity of educational reform, and the function of education in democratic society. President Eliot's inaugural address at Harvard will be read with special interest in the light of his achievements, for in it is outlined with remarkable definiteness the policy which has made his administration one of the most brilliant chapters in the history of university education. It would be a good thing if some college presidents would read this address at least once a year. The volume is one that will prove wonderfully suggestive to every teacher whether in school or college, and in making these essays and addresses accessible to a wider circle of readers than has heretofore been possible the publishers are rendering the cause of sound education a lasting service.

THE STUDY OF EDUCATION AT HARVARD.

As an instance of what the larger institutions are doing in the direction of giving instruction to students who wish to become teachers, principals, or superintendent of schools, we may call attention to the courses offered by Harvard for the present collegiate year. It is the aim of the courses in Education (1) to discuss education as an important function of society as well of the individual; (2) to offer to university students who look forward to teaching as their profession the necessary professional training for their vocation, and to teachers already in service professional inspiration and guidance; and (3) to offer university men who have already had experience as teachers, and to all other teachers of suitable age and attainments, appropriate professional training for future usefulness as principals and superintendents. The courses offered cover the history of education, an introduction to educational theory, the organization and management of public schools and academies and of city school systems, practice teaching, methods of teaching secondary school subjects, and a seminary for the most advanced students for the special study of current educational problems. It is a noticeable feature of the courses at Harvard that several of these courses are general, the purpose being to acquaint the student, who does not intend to teach, but who is interested in education as an important function of society, with the history of education, with its problems and with such generally accepted principles as may serve to guide and clarify his further study of the subject. The study of education as a part of a liberal education has, it has long seemed to us, a place in every college course, and we rejoice to see that Harvard is now giving due recognition to pedagogy as a culture study.

College education and liberal education are looked upon as synonymous terms, because it is believed that the training which every real college provides emancipates the mind from narrowness of every kind. Far better than the discipline of the college course is that breadth and impartiality of view which liberates the mind from intolerance and prejudice, and which keeps it ever open to the truth from whatever source it comes. Learning of the right sort and open-mindedness go together, and the student who fails to acquire from his college course the spirit of free and hopeful inquiry has missed the chief good of being in college.

MUSICAL INTERESTS OF CHILDREN.*

To ascertain what songs children like and their reasons, the following questions were asked: I. What one song do you like best? Give your reason. II. Name some other songs you like and tell why you like them.

The papers of 2,000 children, one hundred boys and one hundred girls of each age, covering the ages from seven and under, to sixteen and over, were collated with the following results. They were collated as First Choice, Other Choice, Favorite Songs, Reasons. The songs were classified as:

I. Social, including Folk, Negro, Home, School, Love.

II. Religious, including Church, Sunday-School, and Christmas.

III. National, including Patriotic and War.

IV. Street.

V. Miscellaneous, including Sea, Opera, College.

The same classification was used for first and other choice. Of the 2,000 children only four failed to make a choice, two boys, because they could not sing, said they had no favorite song. Two girls could not make a choice of a favorite song, but gave a list of several they liked.

SOCIAL SONGS.

Under *Social* the two largest subdivisions are *Home* and *School*. The Home songs at the age of seven and under are lullabies and baby songs. Twenty-two per cent. of the girls and 12 per cent. of the boys of seven choose these. Eighteen per cent. of the girls and 15 per cent. of the boys of eleven are the maximum. In all 14½ per cent. of the girls and 7 per cent. of the boys choose Home songs. After seven years, "Home Sweet Home" is the favorite, a greater number of boys than girls choosing it, 4 per cent. in all.

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*In the preparation of this paper I wish to acknowledge the assistance by notes and suggestions of Mr. Will S. Monroe, of the Westfield, Massachusetts, Normal School.

For test papers from pupils I am indebted to teachers and superintendents in the following cities and towns: Boston, Springfield, West Springfield, Chicopee, Monson, Brimfield, Warren, West Brookfield, Acto, Harvard, and Sturbridge, Mass., Newport, R. I., and Stamford, Ct.

School songs begin with 43 per cent. each at seven years, going down to 2 per cent. of the girls and 5 per cent. of the boys at 16 years. Nineteen per cent. of the entire number choose School songs. It was impossible to determine the favorite as School songs are local. In general they applied to Nature; "Spring," "Robin's Come," "The Violet," "Who Is That Kissing our Baby?" Some of the tests were given about Christmas and among the younger children the choice was largely of Christmas songs learned at school. School songs, as such, do not have much hold upon the children, as the decrease in per cent. shows. Of the 1,445 School songs chosen, both first and other choice, about one-half are chosen by children under 10 years.

Negro melodies appear stronger with the boys than with the girls, in the ratio of 2 to 1. Many chose darky songs but they are classified under Street songs. "Swanee River" is the favorite, then "Massa's in the Cold, Cold, Ground." In my own school I gave the test in November. To see what the children would write after a few months had passed, I gave the test again in March. During the winter we had learned, among other songs, "Swanee River." Thirty-three per cent. of the children made the same choice as at first, usually "America," but 33 per cent. chose "Swanee River." The second choice was, on the whole, better than the first.

RELIGIOUS SONGS.

Religious songs commence with 2 per cent. of the girls and 6 per cent. of the boys at 7 years. At 13 years it is 23 per cent. of the girls and 6 per cent. of the boys, at 16 years, 27 per cent. of the girls and 21 per cent. of the boys. In all, 18 per cent. choose Religious songs. "Nearer, My God, to Thee" leads the list, then "Holy City" and "Jesus, Lover of my

Soul." I found the greatest number of Religious songs among the children who probably hear the best music. "Ave Maria" and "The Palms" were chosen by several girls, "The Messiah" by a good number of boys. Christmas songs are classed under Religious. Fourteen per cent. of the girls and 10 per cent. of the boys of seven years, 21 per cent. and 13 per cent. at 8 years, 4 per cent. and 8 per cent. at 10 years, none above 14 chose Christmas songs. "Hang up the Baby's Stocking" was the favorite.

NATIONAL SONGS.

Patriotic and War songs form a large part in the choice of both boys and girls. Beginning with 13 per cent. of the girls and 18 per cent. of the boys at 7 years, the maximum for the girls is reached with 29 per cent. at 12 years, and for the boys 40 per cent. at nine years. In all, 20 per cent. of the girls and 35 per cent. of the boys choose Patriotic songs. "America" leads, with 13½ per cent. of the girls and 20 per cent. of the boys. "Star Spangled Banner" comes next, a few choose "The Marseillaise." "Marching Through Georgia" and "Yankee Doodle" lead the war songs.

STREET SONGS.

Street songs commence with 3 per cent. of the girls and 5 per cent. of the boys at 7 years. The maximum is 16 per cent. at 14, with the girls and 18 per cent. of the boys at 15 years. At the age of 16, it falls to 4 per cent. of the girls and 7 per cent. of the boys. Seven per cent. of the girls, 10 per cent. of the boys choose Street songs. While many of these are Darky songs, they could not be classed as Negro melodies. "There'll be a Hot Time in the Old Town To-night," "My Gal's a Highborn Lady," "Rosy O'Grady" are the favorite Street songs.

MISCELLANEOUS.

Under Miscellaneous are classed Opera music and songs of the Sea, also College songs,—though the latter might have been classified as social. The Opera music includes airs from

"William Tell," "Robin Hood," and "Jack the Beanstalk," and came from the older children. "Anchored" was undoubtedly learned at school, as the choice was, for the most part, in one school, but since so many gave as a reason that it was a song of the Sea, I classified it as such. There were several other songs of similar nature chosen.

REASONS.

Under Reasons, "Like the music" comes first with the girls, 20 per cent. With the boys, "Patriotic" leads, 18.4 per cent. "Nice, pretty, or sweet" comes second, 18.8 per cent. of the girls, 16.4 per cent. of the boys; "Association," 15 per cent. of the girls, 13 per cent. of the boys; "Like the words," 11 per cent. of the girls, 4.6 per cent. of the boys; "Patriotic," 10 per cent. of the girls; "Like the music," 15.9 per cent. of the boys; "Religious," 3 per cent. of the girls, 2.8 per cent. of the boys; "Lively," "Sad," 4 per cent. each of the girls, of the boys, *10 per cent. lively, 1 per cent. sad.*

"Like the music" or "melody" begins with 6 per cent. at 7 years, increasing to 29 per cent. at 16 years, with the girls; with the boys increasing from 10 per cent. at 7 years to 20 per cent. at 16.

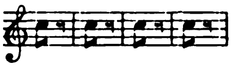
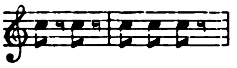
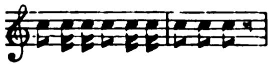
"Nice, pretty, sweet" reaches the maximum at 8 years, 44 per cent. of the girls, 33 per cent. of the boys. With the girls it falls to 4 per cent. at 16 years, with the boys to 6 per cent. "Association" is strongest with the girls at 7 years, 32 per cent., least at 11 and 16, 10 per cent. For the boys the maximum is 19 per cent. at 13 years, 15 per cent. at 16 years. "Like the words" increases from 2 per cent. to 25 per cent with the girls. With the boys the maximum is 8 per cent. at 10 years.

Patriotic reasons are given most by girls of 12 years, 19 per cent., by boys of 11 and 15 years, 26 per cent. "Sad" is given as a reason by 12 per cent. of the girls of 14 years and by 6 per cent. of the boys of 12 years; "Lively," 9 per cent. of the boys of 15, 8 per cent. of the girls of 11. Of Religious reasons, the maximum is 9 per cent. of the girls at 13 years and 9 per cent. of the boys at 16. Gurney in "Power of Sound" says: "Should you ask a man what he thought of a beautiful building, he would give you some true reason, but catch him whistling an air from Mozart, and ask him why he likes it. He will say, 'Because it is sweet,' and probably think you a fool for the question." About 20 per cent. of the children gave this reason. Just what they mean is hard to decide, but probably that the music is pleasing. We notice that this indefinite reason decreases as the children grow older and that it is less with the boys than with the girls.

Words and music together form a strong reason. A girl of 16 chooses "The Psalms" on account of the depth of the music and the religious sentiment. A boy of 13 says, "I like Home Sweet Home, Star Spangled Banner, and America because they have a sweet melody and excite me to like music more." "Anchored" is chosen by a large number who give as a reason that the words and music seem to belong to each other. A girl of 16 chooses "Tyrolese Chorus" because the words suit the music. The majority of those who chose Negro melodies gave "melody" as the reason.

The choice of songs on account of the words falls below that on account of the music, but increases from 2 per cent. to 25 per cent. of the girls. "Lively" or "Fast" and "Sad" or "Slow" are about even. I found often on the same paper a balancing, as it were, of "lively" against "sad" or "slow;" "long" against "short;" "sung often" against "not often sung." For example: "I like Home Sweet Home because it is sung slowly," and "The Only Pebble on the Beach because it is sung fast," from a girl of 10. Another from a girl of 11, "I like the Lost Chord because it is sung often," and "What the Bluebird Said because it is not often used."

TIME OR RHYTHM.

Time or rhythm is very strong among the savage tribes. Among many tribes it is time only, harmony is wanting. One characteristic of rhythm especially marked in the superior musical development of man, and taking us back to primeval times is the dual balance—commencing with  then developing into  and finally into  This is the tune the child plays on his first drum. However simple or complicated the arrangement of notes within the bars, the number is based on two or a multiple of two. We are made symmetrically, two sides externally alike. This results in alternate motions with each side. Thus all external movement is double. If we had three arms and three legs, our melodies would be based on the number three. The sense of rhythm is so essentially a sense of movement we cannot doubt the early connection of music and dancing.

Any one who watches himself or other people as they listen to music will perceive that the pleasure is often enhanced by actual rhythmical movement. Even if no actual movement occurs the tendency is there. These impulses toward movement are no sufficient reason for our being pleased with melody; they do not belong to the æsthetic region at all. To recall a tune, with many people, the rhythm is revived first, the melody follows. Time, or rhythm, as a reason, came out prominently on the children's papers. From the youngest to the oldest, *movement* was strong. A girl of 16 writes, "I like Three Grenadiers for the swing and rhythm of the words and music." Many of the street songs were chosen for their time, they are lively. The dance instinct, too, appeared. "I like Hot Time in the Old Town, because it is a fine two-step." The same reason for choosing this song was given by several of the girls. That some children prefer a certain time or movement to others is often proved. One little child could be quieted only by the tune of "Maryland, My Maryland;" it was the rhythm of that particular tune which she liked. Among the savage tribes dancing and music are almost inseparable. One traveler among the North American Indians said he could but wonder by what sentiments their dances were actuated, their grave faces were in such striking contrast to their rapid movements. The Bushman sings while he dances, swaying his body in time with the music, nor does he cease, till exhausted he sinks to the ground. Among many tribes dancing is a part of a religious rite. The symphony is a development of the dance melody. It has been explained that the auditory nerves stand in so close connection with the spinal cord that we may say dancing is a sort of reflective motion caused by music. Laura Bridgeman perceived rhythm, arrangement and loudness of tone through the vibrations of the soil.

PATRIOTIC REASONS.

Chorley believes national music to have been derived largely from the dance. He says that this class of music has been too much neglected by scientific teachers and historians who have considered it in the light of raw material. Eleven per cent. of the girls and 18 per cent. of the boys made their choice for patriotic reasons. There were a few who chose "God Save the Queen" as their country's song, one who chose "Dixie" as the patriotic song of the South. A boy of 13 says, "The song that I like best is the Marseillaise. I like it because it rouses me up, and the words express just what you feel. I also like Battle Hymn of the Republic and Austrian National Hymn because the words mean what the people feel." A boy of 16 says, "I like best the French National Hymn. It is so impressive, fiery, a song of freedom, its tune is so grand and corresponds so well with the words. It has such a history behind it and expresses so much that I am always stirred when I hear the brilliant old Marseillaise. I also like the Russian National Hymn, America, the Bulgarian songs for their flowing and gentle tunes and their significance to me as distinctly national." A boy of 14 says, "I like America best, and I think every boy who lives in America ought to choose that song first." The instinct of patriotism is stronger with the boys than with the girls, the per cent. choosing patriotic songs is large, even with the youngest, 18 per cent. at 7 years. "I choose America or Star Spangled Banner because it is our country's song" was the reason given most often. The fact that boys show greater interest in history than girls do, probably has some connection with their preference for national songs. Among the Sandwich Islanders most of the traditions of remarkable events in their history are preserved in songs. The Greenlanders sing of their exploits in the chase and chant the deeds of their ancestors. Among some of the dwarfs of Africa, songs are improvised describing certain events, but one has never been handed down. Throughout Africa we find a sort of wandering minstrel whose vocation is the glorification of the chief whom he serves. One taught the village youth the songs of his country.

Spencer says that national airs are affected by the natural intonations of speech. The intonation of the Italians is varied and expressive, their melody free and flowing. The Scotch have a more monotonous mode of speech, their tunes, too, are more monotonous. But among savages we do not find the same parallel. The Samoans, Fijians, and other tribes have a pleasant language but rude music.

ASSOCIATION.

One of the most interesting reasons given by the children is "Association." A girl of 16 says, "I think my favorite is Swanee River because I have lived there and heard it sung by an old Negro quartette." Another girl writes, "The Whip-poorwill Song reminds me of my country home which brings only pleasant memories." A boy of 8, "I like Pretty Robin because in summer when we open the window, he sings. A girl of 10, "I like Jesus my Shepherd, Home Sweet Home, and In the Green Woods, because mamma used to sing them to me when I was small." Association with home is very strong. A boy of 11 writes, "I like best I'm a Shepherd of the Valley because it seems like the mountains where I used to live and where the sheep used to be." A boy of 15 says, "I like Rocked in the Cradle of the Deep because it reminds me of the ocean where I once lived for four years." With the little ones, association with good times at Christmas and at play is strong. A little girl of 6 says, "I like Who is that Kissing Our Baby, because I have a baby at home." A girl of 18 writes that her favorite songs are darkey melodies—the reason, because hearing them when quite young, the memory of the impression she received still lingers. Many gave as the reason for liking a song that they had heard it sung by a good singer. Association with the sense of smell I found. A boy of 12 says, "I like the song of the Pansies because pansies are sweet to smell." Also association with sound. A boy of 7 writes, "I like Jingle Bells because it seems as if you could hear the bells jingling." With the younger ones association with *self* was noticeable. "I like the song of George Washinton because it has the first letter in my name." (George Avery.) A boy of 6 says, "I like Come Children Let Us Sing, because it says *children* in it." A boy of 8, "I like What was the Hotel Worth? because it is a *man's* song." Burroughs in an article on Bird Music in the March ('98) *Century* says: "Bird songs are not music but suggestions of music. The little ditty of the first song sparrow in spring, or the call of the first meadow lark will mean nothing as music if we have no associations with these sounds." A boy of 15 writes, "Upon these warm spring mornings three high notes followed by a canary-like cadanza piped from a gloomy swamp just before daylight, gives me the most pleasure, for the songster is a cheery fellow doing his best to welcome spring,—Song Sparrow."

Association with history is strong—about 2 per cent. preferring national songs because of their association with events in history, as the writing of "Star Spangled Banner" at Fort McHenry and "Marching Through Georgia." Gurney does not believe in association, but says that when an historical association does exceptionally attach itself to music so as to appeal to the imagination, it is in connection with some particular piece of music, not with the class to which that piece belongs,—that when we hear Ein feste Burg or the Marseillaise, we do not feel there is a psalm tune or that is a march, but if we feel any associated interest at all we say that is Luther's psalm tune—that is the French Revolutionary March.

Movement or motion songs form a small per cent. among the younger children. "I like The Flow of the River because I like to see a river flow." A little kindergarten girl of 6 says, "I like In My Little Garden Bed because the motions are pretty." A boy of 12 says, "I like Star Spangled Banner because it makes me think of a flag waving." Association with the life of people appeared, as, "I like Swanee River because it tells how the people live."

There was a large number who chose songs because "they tell something," or are "real" or "true." A boy of 8 says, "I like the Corn Song, America and the Dancing Leaves because they give me thoughts." A girl of 16 writes, "I like best Jerusalem, because when I am singing it I seem to see what this hymn tells about. "Real" forms about 4 per cent. of their reasons. Gurney says, "That music is popular which arrests people's attention and when heard again compels their recognition,—not that whose highest success is to please the fancy for the moment." The children's idea of popular music, however, is not Gurney's and with their meaning in mind I have classified some of their songs, about 1 per cent. as popular. About the same number chose songs because they were old. A girl of 15 says, "I think Abide With Me is one of my favorite songs because it is one of the songs that last, it is not sung a short time, then never heard of." A boy of 14, "I think old songs are always best for they are known by old folks and most all scholars."

About 4 per cent. of the girls and 2 per cent. of the boys chose songs because they were religious. A boy of 7 says, "I like Jesus Loves Me, 'cause I know he does." Another boy of 7, "I like Dropping Pennies because I like to give pennies to

Jesus." A girl of 14 writes, "I like Nearer, My God, to Thee for the words and for another reason which I would rather not tell." They seem less able to express their reasons for choosing religious songs than others. A boy of 19, "I like Nearer, My God, to Thee,—it appeals to me in a way I cannot explain." A girl of 16 says, "I like The Sailor's Vision because the person who sang it seemed to feel the meaning of the words and music, and at the time it was sung it suited my feelings." One writer makes this distinction between beautiful and unbeautiful music: "We may call beautiful or not certain bits of music which at a particular stage of one's development give him the characteristic pleasure and those which do not." A boy of 18 expresses well what some of the others seem to feel: "I cannot answer the question directly, I think it depends upon our mood whether we enjoy one song more than another." Some of the children express quite strongly the effect certain music has upon them. "I Know that My Redeemer Liveth, from Handel's Messiah is one of my favorite songs. The harmony in this song is very grand. When it is sung by excellent soprano it makes me freezing cold from chills running down my back. I also think that the Pilgrims' Chorus from Tannhauser is very grand. I want to stand on my tiptoes when it is sung,"—this is from a boy of 16. In this connection it is interesting to notice some of the ways in which Primitive people are affected by music. Burchell, a traveler, says: "Music softened all their passions, lulled them into a mild and tranquil state, in which no evil thoughts approached the mind." Among savages the influence of music is more noticeable than among people in higher states of civilization. It may not be stronger or deeper, but it is brought to light in a more natural way. That music is the direct and immediate effect of the feelings of the moment is plainly seen among both savage and civilized people. Gurney says, "I have no right to accuse one who admires what seems to me feeble music, of having his moral nature enervated thereby. We see all sorts of people caring for all sorts of music, but the good obtained comes from the use made of the pleasure. There are two points respecting the enjoyment of sound. On the one hand coarse and uncultivated natures seem capable of getting enjoyment from sounds which are distressing to others. On the other hand there is no doubt that a set of East end roughs would instantly discover the difference between a perfectly beautiful and a moderately good soprano voice, that is, they show when they get a chance a discriminative delicacy of color, sense, unparalleled in any other region of their sensations." Gurney thinks it would be extremely interesting to know if this taste in sound would be found among savages. Chorley, in his National Music of the World, refers to a visit of some Persian princes to England some twenty-five years ago. They took small pleasure in the opera and its singers. He believes these orientals cannot appreciate beauty of vocal tone in others.

At one time the Marseillaise was sung before an Australian family. At first they seemed confused, then listened attentively, then uttered exclamations of rapture. Who shall say that the brilliancy of this National air did not strike a responsive chord? Light airs sung afterward moved them but little. These people probably could not have told why they liked this particular song.

Mendelssohn says, "What any music I like expresses for me is not thoughts too indefinite to clothe in words, but too definite. If you asked me what I thought of a song, I should say *the song itself* as it stands. If I had in mind definite words I would not utter them to a soul, because *words* do not mean for me what they mean for another,—the song alone can say to me, can awake in him the same feeling it can in another but feelings not to be expressed by the same words."

The way one hears music probably affects its influence. The perception of beautiful quality of tone has no connection with general stimulation and is a matter of the more delicate part of the ear. This would seem to prove that different parts of the ear are appropriated to noises and to tones. We sometimes call unmusical those in whom a musical ear is lacking or is not perfectly developed, who therefore cannot reproduce or perhaps recognize melodies. Such persons can often derive great pleasure from fine sound, especially from organ music. The study of the children's papers has convinced me that music exists only inside the perceiving subject; it is not beautiful in itself.

Grant Allen gives an interesting case of note-deafness. A young man of 30 who had never taken much interest in music, began to suspect some physical malformation as the basis. He was not able to distinguish between two different notes; in an octave he saw a little difference; between the highest and lowest notes on the piano, he could distinguish unless the notes were played in succession. His ear was very sensitive to non-musical noises, as the scraping of a violin. This sensitiveness served him as timbre to recognize difference in voices. A piano was a musical tone plus a thud and a sound of wire-works, a violin, a musical tone plus a scraping of resin. He could not sing a note correctly. Dissonance was no more unpleasant than consonance. In his ear the organs which in the normal ear are tuned in harmony with a limited range of tones and vibrate in sympathy with waves having the same rate of oscillation, were badly tuned,—the notes near each other did not arouse different sensations, they both stimulated the same fibres.

Galton contrived a whistle for ascertaining the upper limits of audible sounds in different persons. He found a remarkable falling off in the power of hearing notes as age advanced. He tried animals in the Zoological Gardens in London—found cats possessed the greatest power of hearing. Small dogs could hear high notes, large ones could not. His attempts on insects failed. Binet calls the problem of colored audition a puzzle, yet he says 12 per cent. of the people possess it. Baritone and bass voices excite dark sensations, high voices, light.

The vowels have most color, the consonants appear faded. In most test cases *a* is given as red. One lady saw green when she heard Haydn, blue when she heard Mozart, yellow on hearing Chopin, and changes of color when she heard Wagner.

Another has musical visions,—when she hears an oboe she sees a white pyramid, on hearing a 'cello or trumpet she sees a flat undulating ribbon of white fibres. In an orchestra, when the violins strike up, she sees a shower of white dust. It is said that some people when they hear music, see beautiful changing mosaics, the patterns of which have definite connections with the musical chords.

THE KEY.

In the children's papers the preference for certain keys was noticeable. Minor songs have the preference with a few. One girl writes that her choice is minor songs, though she gives no reason. It has been thought that many of the savage tribes sing in a minor key, but it is difficult to say whether they use this more than the major key,—it depends upon the race or perhaps upon the country. Bancroft says that among the natives of Southern Mexico, their jolly songs are sad and their merriest songs melancholy, that is, they appear so to us. The same key expresses to different people very different ideas. In Australia most of their singing is in the woods and the music is in harmony with the sombre nature of the country.

The appearance of minor chords in savage music is of great importance as it was thought people did not use minor chords till the 18th century.

"The study of the musical scale," says Gurney, "gives a concise means of judging of the musical state of a nation." Even in the rudest forms of music there was a scale. At first the use of intervals less than a tone was avoided. During the stone age the instruments had a succession of tones corresponding to a part of our diatonic scale. Many Australians use quarter tones, the Arabs have seventeen notes within the octave and they distinguish strictly between sharps and flats. Engel believes the pentatonic scale easiest for children and primitive people, since he considers it founded on the natural structure of our vocal organs.

Waterhouse went back to the animal kingdom and found a gibbon singing the chromatic scale, affecting the descent with great precision. One writer noticed a bird which sang from eight to twelve notes down the chromatic scale, the last ones prolonged as if meditating.

Simeon Pease Cheney in his book, Wood Notes Wild, Notations of Bird Music, gives numerous illustrations of the melody of birds' songs. He says their music is akin to our own, the same intervals are used, those of the major and minor keys.

Gurney believes that given a good ear and similar chances of becoming early familiar with the same music, two persons however widely they may be separated in other respects of character and intellect, will have a similarity of perception and taste for music. Then we should consider what songs to teach children. I do not wonder that as children grow older and have other music to choose from, they do not select school songs,—many of them are not worth remembering. Fortunately, bad music lacks durability. Street music may be in bad taste, but people take what they can get.

In Pedagogical Review Dr. Reissman of Wiesbaden says: "Folk songs are best of all for children. Music should fit the mood, do not teach spring songs in the fall. Christianity and the Reformation sang themselves into the hearts of the people. The whole soul grows large and strong under the God-idea expressed in music really inspired by religious feeling." Becker writes from Berlin: "The child should take as large a collection as possible of folk-songs from school. The first stage should be by ear. Thirty songs and one hundred chorales by heart, are better for most children than all the power to read music that the school can give. Notes should come in the middle of the grammar school course, but *singing* should come at the beginning. *Home*, *School*, *Church*, *State*, *Nation*,—the song should fit the child's heart and mind." First musical impressions are most important. The songs heard in the home may influence the whole life.

THE ORIGIN OF MUSIC.

"It is with music as with language, however far we may descend in the order of primitive people, we shall probably find no race which does not exhibit some trace of musical aptitude and sufficient understanding to turn it to account." Everywhere in Asia civilization has so influenced it that very few traces of original music are to be found, but Chinese music is of most importance. One writer who attempted to study ancient Indian music decided that it was lost, though a few pastoral songs may remain.

Mohammed taught that music was an expedient of the Evil One to ruin mankind. Doubtless this had some influence upon his followers, but many Arabs consider themselves the natural successors of Orpheus.

In Europe the Jews and gipsies are usually considered to possess the most ancient music. Liszt says all Hungarian national music is pure gipsy music. Other writers declare it is borrowed or stolen from anywhere and everywhere. One says that the law of accent of the Hungarian music is the same as that of the Hungarian language and is opposed to the accent of the ancient gipsy language.

In South America the best examples of primitive music are found in Tierra del Fuego; in North America among the North American Indians, and Eskimos whom Nansen calls astonishingly musical people. As to the Negro of North America much of their music is in imitation of the European, but has a wealth of melody.

In Africa and Australia and the Islands of the Pacific there have been found many traces of primitive music. It cannot be entirely lost since we have the writings of so many travelers who were the first Europeans to enter strange countries. Among the Damaras in southern Africa the highest idea of musical performance consists in the imitation of galloping horses. Stanley, in "Darkest Africa" speaks of the enjoyment he derived from the music of the Wanyamwezi and thinks they would gratify an English audience. In Madagascar, though passionately fond of music, the natives have produced no work. The general character of African music is preference for rhythm over melody, the union of song and dance, physical exertion and physical excitement accompanying.

Among the Papuans there exists a sort of Meistersinger school, according to whose rules certain songs may be sung only by persons of certain rank. Physicians attend their patients to the accompaniment of music. So much is it believed to aid in the cure of the sick that convalescents are directed to sing several hours each day

Woman's first achievement in music was the monotone, many voices in monotone led to unison, finally to melody. Women took a prominent part in all primitive music. Most of the Japanese songs are sung by girls. Among many tribes the dancing is done by the women. They took the principal part not only in the reproduction but in the production of music. Here is a lullaby from a Luni mother:

I.	II.
Little maid-child !	Little man-child !
Little sweet one !	Little man-child !
Little girl.	Little boy.
Though a baby,	Though a baby,
Soon a-playing	Soon a-hunting
With a baby	After rabbits
Will be going.	Will be going.
Little maid-child	Little man-child
Little woman so delightful,	Little man-child so delightful,
So delightful !	So delightful !

It has been frequently observed among these people that the male voices are exceedingly high. Up the Niger and its branches the prevailing voice among men is high baritone, among the women, contralto. Among the male voices in a Hottentot chorus not a baritone was heard, every one sang tenor.

Mr. Berg imagines that the male voice was formerly higher than now, and relates as analagous to this that our boys also have at first high voices which acquire the deep tones of a man after mutation. Wallaschek does not believe in this analogy, as then the voices of savages should have been female voices, since boys' voices fall from the alto or soprano to bass or tenor. He attributes the high pitch of their voices to excitement.

As to the origin of music Darwin believes that musical notes and rhythm were first used by the progenitors of mankind for the sake of charming the opposite sex. He notes the power of music to excite emotions of tenderness, of triumph, and ardor of war. He claims that greater intensity of feeling may be concentrated in a single musical note than in pages of writing. Spencer claims that song is developed from emotional speech, thereby agreeing with Darwin. He says that since music awakens in us dormant sentiments of which we had not conceived the possibility and do not know the meaning, these sensations appear like mental reversions to the emotions and thoughts of a long past age. But because so long a time has elapsed we may believe the power of music to have become sublimated, as it were, out of the coarse excitements,—love, emulation, war,—present during the earlier stages, to higher emotions which we may not be able to explain. The use of the voice as a means of pleasure preceded its use for purposes of communication. Spencer gives the following extract from a traveler in Hungary: "Music is an instinct with these Hungarian gipsies. They play by ear but with marvelous precision. Compositions of their own seem an utterance of a people's history. There is a low wail of sorrow, then a sense of defeat, then a wild burst of exultation. They become completely intoxicated with this music."

Wallaschek does not agree with Darwin and Spencer that music grew out of speech. He believes it impossible to say what music expresses except in music. He objects to Darwin's theory that the bird's love song was original music, and that the agreeable feelings which accompanied it were transmitted through heredity to further generations, thus accounting for man's pleasure in music, Hudson, in "The Naturalist in the

La Plata," gives many illustrations of birds assembling for dances and concerts. He has noticed that the song of the male bird during pairing season is feeble and sketchy, his singing being accompanied by love antics. After the mate is chosen his songs are more melodious. After all his observation and study he says: "The conscious sexual selection on the part of the female is not the cause of music and dancing performances in birds, nor of the brighter colors and ornaments that distinguish the male."

Wallaschek believes that music arises from rhythmical impulse and gives as his reasons: "1. There is no *speech* in songs. 2. The monotone could not arise from modulation of voice in emotional speech,—the sense of time was developed long before melody. 3. Music is the expression of emotion, speech is the expression of thought: music stands to speech as drawing to writing.

Gurney believes that the vocal expression of a particular emotion came first, and from this proceeded vocal expression of emotion in general. He also believes that the idealized rendering of emotion is the vital element in emotion. Sully does not accept this, but claims that melody is the essential part of music and melody is a fusion of rhythm and pitch.

To sum up the elements of greatest importance in the musical development of the child, we find they are time or rhythm, love of home, love of country, melody, religious sentiment. The same qualities appear in the musical development of savage tribes. I place rhythm first for it seems to me music had its origin therein. The play-instinct of animals, the dance-instinct of primitive people, the play and dancing movements of little children are all rhythmical. Since it is the accepted theory that the development of the race is in many ways repeated in that of the child, it may readily be accepted as true in the growth of music.

Let me give in closing the words of Jean Paul Richter: "Music, the only fine art in which man and all classes of animals, spiders, mice, elephants, fish, amphibious creatures, birds,—have a community of goods, must ceaselessly affect the child who is the spiritual and the brute beast united. Music, rather than poetry, should be called 'the happy art.' She imparts to children nothing but heaven, for as yet they have not lost it, and lay no memories as mufflers on the clear sounds."

FANNY B. GATES.

WEST SPRINGFIELD, MASS.

PREPARATION FOR THE TEACHING OF SECONDARY ENGLISH.*

There is much that would be desirable in the special studies and training of the English teacher, but into that boundless field we have no call at this moment to enter; I shall confine myself here to that which I deem essential.

"First, catch your hare." A fair teacher of some subjects can be made out of indifferent material. Not so in English. A person lean-souled by nature, juiceless, arid, pinched, spiritually wizened, may be normalized and academized till his trainers have come to the end of their resources, and only be more arid, and wizened, and sapless, and mechanical, and useless, as the result of it all, You can not get blood out of a turnip; you need not expect to make the right sort of English teacher out of anything but choice stock. The machine-made article is a very fair imitation of the genuine thing; but all it can do is to perpetuate and glorify the tradition of the soullessly mechanical, the virtues of the *simulacrum*, the agility of pasteboard puppets dancing to wires. Let us perpetuate and glorify as little of this as possible. In what I am going to say I shall assume that the neophyte is worthy of his training.

Another word by way of preface. I shall not attempt to outline a systematic course of preparation, nor to indicate in what order the several disciplines shall be pursued. Personally, I think it doesn't greatly matter. What matters is that you shall have a personality, and that that personality shall have acquired, by whatever processes, the right way of looking at the objects which come within its purview, the right way of feeling about them, and the most economical way of inducing this same attitude and sentiment in others.

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First, then, what is more important than anything else is the knowledge and love of a few masterpieces. Tennyson thought that the seven chief authors up to the beginning of this century—"the greatest of the great", to use his own expression—are Homer, Æschylus, Sophocles, Virgil, Dante, Shakespeare, and Goethe. There is room for dispute about any such list, as there is about "the hundred best books," but that some of these names should be included in any list of the chief authors, however short or however long, admits of no question. Frame your list so as to include the best, and none but the best; on this point give the deciding voice to the acknowledged masters themselves—let Tennyson count for a hundred ordinary men in the decision. Then, by whatever stages, encourage your initiate to come to a knowledge and love of these few, an uncommon knowledge and a surpassing love. He should know them by heart—in the literal sense of that phrase, *by heart*. In joy and sorrow, in walks through the fields or in the moment of battle, their words should spring unbidden to his lips, as an appropriate and sufficient expression of the feeling which possesses him. The stories which they tell he should be able to rehearse, with ardor, with pathos, with humor, with tenderness, to listeners of every grade. As a transmitter of their power, he should be able to arouse in others admiration of their scorn, or sympathy, or devotion, or calm wisdom. He should be inspired to win converts to them, in season and out of season. He should make them at home in his own soul, and then, through the overflow of his own passion concerning them, proceed to domesticate them among men. This is the first condition of success in the teaching of English.

Next, he should be able to give sound reasons why the masterpieces that he loves are masterpieces, in what respects they surpass other works that may be named. If he is confronted with a book new to him, he ought, after careful reading, to be able to point out its degree of conformity, in certain essential respects, with the best work of its class, and its superiority or inferiority in other respects. This implies the reflective habit, the search for and formulation of qualities and principles. Feeling alone should not satisfy our candidate; he should seek to justify his feeling to himself and to others. He will recognize, point out, and dilate upon the skill of the master in his construction of the main plan, or the rightness and delicacy of his touch in the smallest detail. He will be eagerly looking for great qualities in the new writers; but he will judge righteous judgment, and will reserve his most fervent loyalty for those only who persuade at the same time his reason and his heart. In his quest of indisputable canons, he will read many books of critical theory, many essays on individual writers. In doing this, he will be on his guard against specious and sophistical reasoning, will allow for the narrowness of partisanship, the influence of blind tradition, for patriotic pride and patriotic prejudice; paid cliques will not baffle him, nor the fury of advertising disconcert him; he will be grounded in the truth, and the truth will make him free. So it will come to pass that in matters of literary opinion he can be depended upon; he will be mainly right about Whitman, merits and imperfections, as about Shakespeare; about Pope as about Dante; about Walter Scott as about Homer. All this, it will be observed, does not imply that he shall have read everything in every literature, nor everything in English literature. I am confining myself to the strictly practicable. To feel passionately and rightly; to think soberly, largely, and justly about the eminent masters and any inferior that comes within the field of view—it is at this the novice should aim, and this, for some time, will give him enough to do. I have been insisting on certain things as requisite, because I hold a theory which I am now prepared to divulge, on condition that it shall not be used to discredit my recommendations. My theory is that, for Americans—may I add, for members of the Empire State?—the best is none too good, and that consequently in literature, the highest expression of the human spirit, all teaching, if not the best, should at least have constant reference to the best. There is another, very practical, reason: The search for critical principles, and all attempts at critical exposition, become a futility, a continual turning in a vicious circle, without familiarity—a familiarity which involves admiration and love—with the highest examples of literature. The reason why the teaching of rhetoric, the teaching of annotated school classics, so called, is often an ignoble failure, is because the teacher, when not indifferent, is a weathercock. His admirations are undiscriminating; they quarrel with one another; unwittingly to himself, he contradicts on one occasion, in dealing with a certain author, what he has said on another occasion in dealing with another author. Chaotic himself, the net result of his teaching is to induce chaos in the minds of those who have been entrusted to his ignorant mercies. His boat runs merrily before every gale, but he never has a compass nor a chart. He is a fervent propagator of confusion; he is a conscientious and diligent apostle of spiritual bewilderment and anarchy. Let us have as few of his sort in the schools as possible. The way to minimize his influence for evil is to supplant him, as considerately and gently as possible, by the teacher whose mind is full of beauty and order, and who can illustrate the ideas of beauty and order from the finest literature that genius in any age has produced.

Let us now pass to a third consideration. Our candidate for the honor of instructing in English should have a developed historic sense. He should realize, broadly and generally, wherein the thirteenth century in England differed from the sixteenth, and the sixteenth from the eighteenth. He should perceive the main characteristics of Greek civilization, and how it affected the Roman, the main characteristics of Roman civilization, and how it affected the English; he should recognize the upheaval caused by the Renaissance, what it endeavored to substitute for mediævalism, how far it was successful, and how far mediævalism has nevertheless persisted. He should gain a knowledge and a sense of mediævalism at first hand, and not through the travesties of later writers, should see that in this period the foundations of England's national greatness, and hence of our national greatness, were laid. It is axiomatic that he should learn to read with ease and full intelligence the English of every period, of the ninth century no less than of the nineteenth, of the age of Chaucer as well as that of Milton. How otherwise can he detect that which has been significant, germinal, transforming, in the evolution of English literature and the English spirit? How else can he trace the whole mighty movement, through periods of apparent stagnation or decadence as well as of uplift and advance, how distinguish the strands of many-colored water which constitute the river of English speech, as it rushes forward, now turbid, now clear, straight onward or refluent, but always indicative of the growing greatness, the imperial destiny of the English race? By every means, then, the historic sense should be deepened and developed. This may be done through the reading and study of political and constitutional history, of the successive changes in institutions, laws, manners and customs, of systematic treatises on the history of English literature; but none of these is a substitute for the study of representative works of the various periods, with the attempt to appraise their typical significance for the given epoch. By this means all one's knowledge of history, vague and general, or detailed and precise, is focused, clarified, related, vitalized, and rendered effective. Then, when one opens an author to teach him, his age rises living in the memory; its men and manners revive on the instant; its struggles, its discords, its weaknesses, its achievements, its contributions to civilization, are all recalled; and against this background the chosen writer seems to trace his lines as with a pencil of fire, not only revealing himself, but suggesting, as trait after trait of his generation starts into distinctness, a thousand illustrations and a thousand lessons.

Thus far we have been regarding the novice chiefly in his capacity as explorer, as appropriator, as investigator, without particular reference to the means by which he shall communicate to others the results of his study, or by which he shall impress upon them his convictions and inspire them with his enthusiasms. We may now turn to consider his equipment as artist. The function of the artist is to make others see as he sees, feel as he feels. His primary concern is with means, means of expression. Every good teacher is at once student and artist. He seeks the truth—truth of fact, truth of relation, truth of feeling—but he seeks it that he may convey it, or its meaning and essence, to his pupils. He must gain for himself, but he must give to others. The artistic side of his nature is no less important than the acquisitive. If he neglects acquisition, he is empty; if he neglects art, he is dumb, or at least an ineffective stammerer.

Let us suppose our candidate in possession of an ordered mass of literature, greater or smaller, of the constructive and other principles which this literature illustrates, and of certain clear perceptions concerning the character of English civilization, language, and literature, in their successive epochs, and of the whole process by which they have evolved; what is the next thing requisite? Shall he proceed to begin at the beginning, and tell his class, in chronological and philosophical sequence, all that he knows? Or is there a process more artistic, and consequently more practicable than this? He has, let us say, a concrete problem: he has to prepare a boy for college, in a class composed largely of those who are not going to college, and to whom, therefore, he is anxious to impart English in a way that shall be to them through life of the greatest value. He is bound to certain texts as the nucleus of instruction; yet he has conceptions which he deems of importance, and which do not, at first sight, seem to spring spontaneously and inevitably out of a study of those texts;—what is he to do? Or his problem is different: he has time enough for those texts, but not for an independent course in rhetoric, an independent course in the art of writing. His puzzle is insoluble? No, as artist he is bound to solve every puzzle. This raises the whole question of method. At bottom, this is a question of psychology. How is the human spirit best approached, most easily won, stimulated to the most profitable self-activity? It is especially a question of juvenile and adolescent psychology. What are the successive phases through which the nature of the child passes, and what appeals most strongly to it in each successive phase? How, while satisfying the legitimate instincts of each phase, can the fullest provision be made for the next following and all later phases? How far shall the child-spirit be addressed, and how far the one universal human spirit? The process is conditioned also by the particular object. What shall I aim to do in teaching this play of Shakespeare, that poem of Tennyson? Out of the vast array of possible transformations of the human spirit through this medium, which shall I make the dominant one? The ultimate aim determines the proximate aim. The nature of the human soul, and, in particular, of the human soul in a given stage of its development, determines the leading modes of appeal and discipline. All training in method should be strictly subsidiary to these considerations, and trifling details may well be left to take care of themselves. Two or three general principles will, I think, commend themselves to experience and reflection. First, the teacher's art must, in its lower degree, co-operate with and reinforce that of the author. The inferior must not be at cross purposes with the superior, must not, with whatever good intentions, blunt or confuse what the author has left keen and lucid. Secondly, all good teaching of English should tend to endow the pupil, in his degree, with the same powers which I am supposing the accomplished teacher to possess. It must make him an eager student, and something of an artist. It must give him the best as a standard, and enable him to see why it is the best. It must give him a sense of the increasing purpose which runs through the ages.

We have considered the first point in the teacher's equipment as artist, the means by which he evokes in another mind the process of self-activity which shall lead it to similar acquisitions, similar insight, similar powers. Among these powers is that of self-expression. The most typical form of self-expression is through writing. The teacher must then be able to write artistically, or, in other words, to effect a proposed impression through the medium of written discourse. This power he will gain in some measure through the various disciplines which have been already considered. Through familiarity with the best writers he will secure an acquaintance with the springs which actuate the human soul, and with the manner in which those springs are touched; besides, he will have appropriated, almost unconsciously, the choicest and most expressive diction which those authors have employed. Through the study of psychology he will have gained a still clearer view of the workings of the spirit of man, and his inquiries into the art of teaching will have taught him a wise economy in the employment of the means by which to interest others. What he needs in addition is chiefly practice in writing—practice, which will render that easy in the doing which theory had already made intelligible. He will gain a certain facility in narration, description, exposition, persuasion, and even, it may be, in the composition of some of the simpler forms of verse. Thus equipped, he will know how to direct the incipient efforts of his own pupils to much better purpose than through any dependence upon school manuals of the art of composition.

One suggestion more, and I have done. The teacher should be able to interpret vocally the literature with which he deals. He should be able, without producing the impression of effort or affectation, to read aloud with clearness of enunciation, rendering the author's meaning and suggesting the accompanying sentiments, in such a manner as to give pleasure to his auditors. If he is otherwise prepared for his office, this will require nothing save the acquisition of intelligent ideas regarding voice-production, and a reasonable cultivation of the organ of speech itself. The most difficult part of the task, the spiritual preparation, will have been sufficiently accomplished in the other ways proposed.

I shall assume that if the special studies and training I have advocated are really the best, this fact will be evident without further argument. My belief in their practicability rests upon the postulate that the stress has been laid upon that which is vital and fundamental, on the quality, not upon the quantity, of acquisition. To know intimately and to love fervently a few masterpieces; to be able to tell why each is a masterpiece, and why a given inferior work is not; to appreciate what are the main currents of civilization, the chief modes in which they have affected our own, and the manner in which they are reflected in the representative works of our best authors; to have a clear notion of what can best be imparted through the medium of a given piece of literature, and how most fully to rouse a class to make the requisite effort; to write with a reasonable degree of lucidity and effect; and to read aloud as well as thousands of people read at their own firesides: this is all that I should expect of those who are to teach English in high schools and academies; and I shall be greatly surprised if the American people is for any long time satisfied with less.

ALBERT S. COOK.

YALE UNIVERSITY.

RATIONAL PSYCHOLOGY FOR TEACHERS.

The President of this Council* has courteously asked me to present a short paper on the value of rational psychology for teachers. I have gladly consented because I place a high estimate on its worth. I shall try therefore to describe as concisely as possible what is understood by the expression rational psychology, and discriminate it from other psychology, and after that to tell something about what it claims to do, and point out its use in education.

First, what is meant by rational psychology? To this question the reply is that while psychology in general includes all observations on the operations of the soul or mind, these operations fall into two classes, namely transitory activities on the one hand, and the permanent forms or laws that govern those activities. The former order, the transient actions, flow on in a perpetual stream, each one replacing another. But the stream abides and so too do its essential forms. We turn off our attention from the flitting events or actions and look upon the form of activity and then we come to see general conditions or laws that govern the particular events in consciousness. The famous philosopher Wolf, who systematized the ideas of Leibnitz and reduced them to pedagogic form for the universities of Germany, named the former observation, that of the transient actions, empirical psychology, while he named the latter species of observation rational psychology, sometimes calling it metaphysical or transcendental psychology. While empirical psychology contained the classification of the particular mental facts under certain general heads, such as cognition, feeling, will, and other anthropological and ethnological characteristics, on the other hand, rational psychology would treat of the fundamental distinctions in the soul, such as its personality, its freedom and its immortal destiny.

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* The National Council of Education.

Leibnitz had shown in his New Essays on the Human Understanding how to find these traits of the soul and he had called the mental act by which they are known *apercevoir* instead of *percevoir*—apperception instead of perception. We perceive mental things and events but we apperceive the nature of the mind itself. Leibnitz would therefore have defined rational psychology as covering apperception, while the field of perception belongs to empirical psychology.

The philosopher Kant in his transcendental deduction of the categories has spoken of the synthetical unity of apperception and declared it to be the highest principle of the understanding. He evidently had in mind the thought of Leibnitz.

Again Herbart has borrowed this doctrine of apperception from Leibnitz through Kant and extended its application to all recognition, interpretation, and explanation, making it the fundamental activity of the mind to seize ideas and adjust them to the stock of ideas already on hand. Rational psychology deals especially with this apperceiving power by which it explains the transient facts and events by referring them to the energies of the soul that produce them.

Let us illustrate this further. Space, time, and causality are apperceived but not perceived. They belong to rational psychology and not to empirical psychology. But they furnish the logical conditions that make plain the relations of events observed by empirical psychology. We observe a succession of events; we are able to do it only by the idea of time. We observe a thing and its environment, but we are able to do this only by the idea of space. We observe a change in an object; the idea of substance makes this possible: for the thing before and after its change has preserved some identity and this idenity is substance. We think the change as an effect only by thinking of a cause as something active that produced the change. The change belongs to the order of effect and is dependent, but the cause must be as active and originating. The nucleus of the idea of cause is therefore self-activity.

Again space and time involve infinitude. They are self-continuous. Every limitation thought in them implies space or time to exist in and therefore continues space or time instead of limiting it.

Looking anew at this process we find that perception furnishes thing and environment, but apperception furnishes space as the logical condition, and infinitude as its form.

While perception furnishes the event, apperception, in the sense Leibnitz used it, furnishes infinite time as the logical condition of any and all events. Perception furnishes a change or movement, apperception furnishes the idea of causal energy and makes it to be an originator of new modifications in the world. This is the idea of self-activity.

Rational psychology following out this thought arrives at the ideas of freedom and responsibility, and can explain the facts of social experience—the return of the deed upon the doer, and the growth of conscience. For conscience has this significance, that the individual man recognizes himself as a transcendental ego, originating modifications in his environment, causing new chains of causal relation to take the place of old ones. More than this his conscience involves the recognition of other free wills than his own. He thinks these other free wills and unites them to his own course of action and thereby makes their will his own and thus ascends to a social will. This is a great conquest for rational psychology, perhaps the greatest of all its conquests. For in seeing the moral will it gets a glimpse of the conditions of absolute being. It is in fact able to say with confidence that the Absolute being itself is ethical. Because it would forever destroy the results of its creative activity unless it were altruistic and possessed what the Psalmist calls loving-kindness. But rational psychology has shown clearly that if it were not altruistic an absolute mind could not exist. It could not be conscious of itself, it would destroy all self-objectivity and hence would not be self-determined. It follows that it could not even exist.

The great thinker Hegel reached this insight in 1806 when he wrote his Phenomenology of Mind. The last two chapters show that the consciousness of the free will is an act of absolute knowing. In the Christian consciousness, yes, even in the Hebrew consciousness of the Old Testament as reached in the Psalms, man has come to know the nature of absolute self-determined, independent, being. Hegel called this book his voyage of discovery. This has been a puzzle to his disciples. It is only on applying the key of his logic that one comes to see what Hegel saw on his voyage, namely this: that there is no independent being not self-determined; no independent being not an intellect and will; no intellect and will that does not find its perfect ideal in goodness or altruism. After his Phenomenology he could write his logic and show that every category except the ethical idea, is inadequate for independent being.

Rational psychology, it is evident, is founded on the insight of Plato into the self-moved one. Individual immortality follows as a logical consequence of this insight. For without it the divine self-knowing would not be a knowing of its own substantiality and independence. It is not strange therefore that Plato wrote the Phaedon and the tenth book of The Laws. Nor is it strange that with this insight Aristotle could write the Nichomachean Ethics and the seventh chapter of the twelfth book of the Metaphysics. Those writings of Plato and Aristotle, together with the Nouveaux Essais of Leibnitz, the Contra Gentiles of Saint Thomas, Kant's Critique of Practical Reason, and Hegel's Phenomenology, are the finest parts of the literature of rational psychology.

The ethical ideal is the summit of rational psychology but art and literature too borrow their ideals from it. For it furnishes the standard by which works of art, whether in poetry, music, painting, sculpture or in architecture are measured. Do they express perfect freedom, and the negation of selfish exclusion, they but reveal the highest ideal found by rational psychology. If they portray the crushing out of human individuality by the world-power, they pronounce judgment against themselves.

Formal logic is counted apart from psychology and yet it is one of the most important chapters in rational psychology. The discovery of the three figures of the syllogism and the valid modes for deductive reasoning by Aristotle revealed the structure of the mind as a process of knowing by inference.

But rational psychology, besides this structure of the syllogism has done a better thing in showing the three stages of knowing. This was one of Plato's best contributions. In the tenth book of his Laws is found one of the many discussions which lead up to the third stage of knowing. "All kinds of motion," says he, "may be reduced to two, motion through another and self-motion," and it is clear to him that self-motion is the basis and foundation of motion through another.

The lowest stage of knowing sees things without their essential relations, or at least it has only a slight glimpse of these relations. As it grows stronger it passes into the second stage of knowing when it comes to see that every thing or event is relative, depending on an environment of things and events. Then it pronounces all knowledge to be knowledge of phenomenal being; mere show or appearance and not true reality. But with the operation called apperception by Leibnitz, it sees the conditions of true being and knows pure self-activity as the fundamental existence. It sees that all things that exist whether transient or permanent are to be explained by and through it, and this forms the third stage of knowing, the knowing which Plato called knowing by totals, and Aristotle called *theoria.*

These three stages of knowing are variously named. The first may be called that of sense-perception ; it knows sense objects and supposes them to be independent. The second stage may be called that of the understanding—it acknowledges the relativity of all things. They are mutually interdependent Like the waves of the ocean their individuality is only a seeming one. They are really swallowed up in the sea of being. But the third stage of knowing, the fundamental principle of Plato and his philosophic followers, uses the insight into self-activity. It knows with perfect certainty that any whole or total of being is a personal mind.

It is an interesting theme in rational psychology to note the relation of the mind to the world of experience in the three stages of knowing. In the first the mind is dependent on the objects perceived for its content. In the second, with the doctrine of relativity it has freed itself from experience by arriving at a negative first principle. The ocean of pure being swallows up all the data of experience, they are merely phenomenal. Freed from the data of experience the third stage of knowing discovers the true conditions of all existence to be found in mind as perfect self-active being. Life is self-active being of a lower order than conscious knowing. The plant is lower than the animal.

The third stage of knowing alone can correctly interpret the world of sense-perception, for it explains all its formations and transformations as steps in the realization of mind. A perfectly altruistic mind has made a school house, time and space. In this school house it has set up a school of training in individuality. The mineral, the plant, the animal, are all at school training for individuality and independence. As the intellect and will become perfect, goodness and righteousness become more and more the goal of the conscious intellect. With the perfect intellect there would be realized a theodicy. God's ways would be justified.

Rational psychology is not a substitute for empirical psychology; still less is empirical psychology a substitute for rational psychology. The knowledge of ideals, the unital purpose of all education is given to the teacher by rational psychology. It shows him the ladder of ideas and stages of thought up which he is to climb with his pupils. He will not rest contented in the first stage of knowing nor in the second. He will teach all things in the spirit of the third stage.

But the concrete bodily conditions, the pathology of education, must be learned from empirical psychology. The rate of progress in studies, the amount of drill which will not arrest development, but hasten it, the idiosyncrasies that may accelerate or retard growth, the diseases of the sense-organs, the code of health, these and their like must be learned from empirical psychology, borrowing its standards however from rational psychology. For without these standards of progress a lower order of activity is just as good as a higher order.

The real, just as it is, is not the true norm. Empirical investigation can tell us what is but not what ought to be.

Rational psychology can give to the teacher that higher apperception of which Leibnitz has told us. Empirical psychology cannot give us the apperception but it can give us the facts and instances which need apperception. It can bake bread but it can not give us a knowledge of God, freedom, and immortality.

We need not ask the question which is the more profitable, as Novalis did, for we must have our daily bread and use it for the procurement of higher things.

W. T. HARRIS.

WASHINGTON, D. C.

SOME ADOLESCENT REMINISCENCES.

So much is being said in our day regarding the educational aspects of adolescence that it hardly seems necessary to produce anything from a new quarter; yet of all that one hears or reads comparatively little is founded upon the remembrances of those who have passed through this crucial epoch in the process of maturing. In view of this it occurred to the writer last winter to request one of his classes, comprised of forty juniors, seniors and post-graduates in the University, to write in some detail reminiscences of their experiences during the adolescent period, according in general to the following questionaire:

I. Growth.

When did rapid growth begin? When completed? Was it uniform throughout the period of acceleration?

II. General health.

Do you recall any marked changes for better or worse in your general health during the epoch of accelerated growth? Was there any noticeable increase in or diminution of mental and physical energy? Was there any disturbance of sleep? Was dreaming more vivid and abundant during this period than before or after?

III. Intellectual phenomena.

Can you recall any marked transformation in the character of your thoughts, as from concreteness to abstractness or vice versa? Was there any apparent rapid development of the tendency to philosophize—to turn the thoughts inward in the study of self? Describe your experiences respecting interest in study: Was it more or less intense? Did your interest change in regard to special studies, some acquiring greater fascination, while others became distasteful? Can you say whether studies of a certain character, as for instance those involving many details or those concerned with general principles, were of special interest and easy of acquisition?

IV. Emotional phenomena.

Describe any interests which seemed to be suddenly awakened at this time, and if possible indicate the causes of their awakening. Did you dwell upon thoughts of self at this time? Was selfishness increased or diminished? Give specific instances illustrating any change which occurred. Were there any marked developments in your religious life, as conversion, skepticism, religious fear, etc.? If you had religious difficulties, what helped you in terminating them? Did you experience feelings of depression or unusual exaltation? Describe your experiences with reference to anger, fear, and pride; be specific in regard to each. What apparently occasioned the unusual manifestation of any of these emotions? What aggravated them? What helped you to overcome them? or have they persisted into maturer life? Describe any transformation in the character of your ambitions and your ideals.

V. Dress, manners, etc.

Were there any marked changes in respect of these matters?

VI. Reading.

What books attracted you most strongly during adolescence? Can you say why they had a special interest for you? If possible narrate the chief characteristics of your adolescent heroes and heroines.

VII. Relations to teachers, parents, and others.

Did you become more confident with any one, or were you, on the contrary, more secretive and isolated in your personal life? If possible give the reasons why you did or did not confide in your parents or teachers. Did you grow markedly obedent or hostile to authority? What traits in those with whom you associated have left lasting impressions for good? What ones have had a contrary influence? As you remember your high school teachers, what in general was their influence upon your life? What sort of persons would you like to have your brothers and sisters under during their adolescent school period?

The students to whom these questions were given had been engaged for some time in the study of mental ontogenesis, and had discussed with some care the value of the reminiscent method in obtaining data for scientific generalizations. Most of them were graduates of high schools, and many of them, in addition, of normal schools; and the majority had had some experience in teaching. They had attained on an average to the age of twenty-five, and in all their work seemed quite mature in their judgments. As a result of these circumstances their reminiscences would have, I think, much value as such things go; especially since the personality of the writers was in no case divulged to any one except the instructor. It is probable that some allowance should always be made for inaccuracies in reminiscent studies; although, on the other hand, in some respects they are apt to be more vital and truthful than the records of a daily diary; since what is wished in this instance is what has really had an important influence upon the course of the individual's after life, and this may be seen more truly when some distance has been passed over so that it may be viewed in retrospect.

It is the purpose here to reproduce a few of these reminiscences upon two or three points of vital interest to teachers in charge of pupils during the adolescent age; and this is done principally for the purpose of inspiring sympathy with the high school boy and girl, rather than in the effort to indicate any definite line of procedure with respect either to the choice of branches of studies or methods of instruction.

I. Phenomena of physical growth, especially concerning the drain upon the nervous energies.

F. (Female.) "Very rapid growth from twelve to fourteen, annoyingly so. Changed greatly in looks at about fourteen. I suffered severely with growing pains, but my general health was good. Impossible to get sleep enough. Was not troubled in sleep after thirteen."

F. "Very rapid growth from fifteen to nineteen and again at twenty. At thirteen I could not be roused to effort. Ceased to care for outdoor sports, which I loved before. It was painful to do any physical labor. My health was miserable at sixteen. I was troubled then for two years with fainting spells. Had to quit school entirely. I loved to dream and sleep, though my dreams were almost always nightmares. I fell from high ladders, and off railings of high towers, was often on top of houses and could not get down. I stood powerless to help my friends as they were killed before my eyes. From sixteen on I had sick headaches continually and weak eyes."

M. "Shot up like a weed. Health excellent, but oh I was so lazy. I had a mania for drinking milk and it took one cow for me alone."

F. "Grew rapidly from ten to fourteen. Had poor health as a child but was better from twelve to fourteen. At eighteen I broke down entirely and had to quit school for one year."

M. "I had a miserable life from fourteen to sixteen. Had growing pains in knees and wrists, indigestion, headaches, had horrible dreams and was a constant sleep walker, though I have outgrown that."

F. "Very rapid growth from twelve to sixteen. Was always tired and nervous and much in tears. My health broke down and I quit school at fourteen. I never went on the playground at the time of puberty. I got very strong at sixteen."

M. "I had a sudden and decided growth from thirteen to seventeen and was brought in for visitors to look at. I increased in weight seventy-five pounds. I had a dreadful swelling in my knees and was unable to go out for one year. As a child I used to romp through the woods, but now at fifteen I'd rather climb in the hay mow and tell and listen to stories. They had to take special precautions with me, for I was a somnambulist."

F. "I was tall and well developed at thirteen. I consulted a physician for rheumatism but found it to be growing pains. My eyes troubled me at seventeen and gave me severe headaches. I was a lazy girl then. I used to dream and scream out, for I always dreamt of falling into the cistern or down stairs or some other dreadful thing happened to me."

M. "I grew rapidly at thirteen. I gained from eighty to one hundred and ten pounds in one year. I had awful pains in my head and neck and chest. I know from music that my voice changed in my fifteenth year. Snakes used to swallow me in my dreams. I was as tired when I got up as when I went to bed."

M. "Grew from fifteen to eighteen. Health almost destroyed. Indigestion and heart failure. Very bad and very depraving dreams."

F. "Began to grow at thirteen—grew from fourteen to fifteen very fast. I had very severe headaches all the time, my back was weak and I had pains in my limbs. A little excitement caused nervousness that lasted for a week. I became stronger at seventeen and at eighteen I have perfect health."

M. "I grew ten inches during my seventeenth year and increased from one hundred to one hundred and forty-five pounds. My health increased during adolescence. I had a voracious appetite, but felt fine."

It is not necessary to comment upon these quotations farther than to say that they show for the most part that the rapid increase in size of the various bodily organs has drawn so heavily upon the vital energies that at times, at least, there does not seem to be enough left to sustain the usual vigor of the mental operations. This phenomenon has been noted recently by many writers, but the inferences from it, so far as they bear upon the work of instruction, have not yet received much if any recognition. It seems plain in view of these data, derivable from so many different sources and all tending toward the same conclusion, that during accelerated physical growth there is a decrease in the amount of energy that may continuously go to mental activity—considering this law it seems evident that we should be more careful than we have been in the past of overpressure in the high school. We doubtless need to be more indulgent of the temporary periods of laziness and inertia which seem to seize hold of both boys and girls at this time. So many of the reminiscences indicate periods of physical and mental inertia. They say: "It was hard to rouse to effort," "I was in a condition of complete inertia," "I had no desire for outdoor sports," "It was impossible to get sleep enough," "Any manual labor was painful," "Great languor and laziness," "Did not like to do physical labor," "Got up in the morning as tired as going to bed," "Cared more to lay in the hay mow and listen to and tell stories," "Disliked to even walk," "Great lassitude in the spring of the year," "Very little exertion tired me out." It seems entirely probable that to coerce a pupil in this condition to hard mental labor must result in nutrition being abstracted from some organ which is much in need of it in order to attain the required normal development. Many physicians and others, as Browne[*], Christopher[†], Sturver[‡], and Burham[‡‡], have emphasized the danger to the health of body and brain of demanding an excessive amount of work of any kind while the physical organs are maturing.

The effect of this period of rapid development upon the brain is apparent from the marked increase in dreaming and kindred phenomena, showing, as Dr. Hall has often pointed out, a tension and irritability of nerve centers which produces ofttimes abnormal intellectual and emotional phenomena; and even in normal adolescent activity there is a strain, variability and rapidity of change in thought and feelings which are probably more marked at this time than during any other period of life. This fact indicates the necessity of providing wholesome channels in which thought and feeling may run, instead of allowing them to choose their own course, which, as every one knows, is only too likely to lie in the wrong direction. Instead, then, of permitting the adolescent boy or girl to be idle, we must rather fill their days up with occupations which, while directing thought and emotion toward wholesome things, will at the same time not make too great demands upon long-continued, concentrated, activities. And this, it seems to me, is the vital need during adolescence—a wealth of opportunity for action, but action in the large, so to speak, which, while commanding the attention, yet will not hold it for too long a period at a time, or to such details as will demand rigid, exacting concentration. In view of this it seems apparent that we should have more of science, particularly of biology, and literature and history, and less of mathematics and language than are now found in the average high school curriculum. Language and mathematics require the most exact co-ordination of all the mental activities, and of course for that reason are most valuable at the appropriate season and in reasonable measure, but they should not occupy too prominent a place in the curriculum during the time when the brain is not suited to continuous and sustained co-ordinations. From another standpoint, too, science, literature, and history should be exalted during the adolescent period, considering that they nourish worthy emotions which are springing forth at this time, and which, if not stimulated in this way, will seek unwholesome avenues of expression and unworthy things to feed upon.

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[*] James Crichton Browne: Educational Review, Vol. IV.

[†] W. S. Christopher: Crises in Life, Child Study Monthly, December, 1897.

[‡] Dr. E. V. Sturver: Journal of the American Medical Association, December, 1897.

[‡‡] W. H. Burnham: The Study of Adolescence, Pedagogical Seminary, Vol. V, No. 1.

The conclusion seems to be, then, not so much that the adolescent boy or girl should work less so far as hours is concerned, as that they should perform those kinds of activity which are suited to a rapidly developing organism whose elements are more or less dispersed. When the adolescent growth is completed will be adequate time to lay special emphasis upon those studies which require long concentrated attention of all the powers of mind and body; but when this work comes too early t will rather disintegrate, than integrate, which, it seems to me, is the greatest danger of education during the adolescent period.

II. Mental phenomena.

M. "I had very weak perceptive ability, neither could I reason well. I was fascinated with the pictures of foreign lands, and carried away with the imaginative side of science. I was wrapt in a book on 'Earth, Sea and Sky.' I used to sit outside and wonder at the harmony of things. I detested arithmetic, algebra and structural botany. Failed in grammar and geometry. At eighteen I grew to like grammar and English."

M. "I used to think in high school that there were no such places as were taught in geography. When at work I dreamed for hours of fine horses. Grammar was distasteful. Geography intensely interesting. I used to lay the geography open before me and think I'd like to write letters home from various places. I was in love with books of travel. I disliked the utilitarian phases of geography."

F. "No interest in school when a child. Great enthusiasm at twelve years. I propounded views on evolution, penal reforms, tenement houses, etc. to my school mates. I was wild over Helen Gardner, George Eliot, Robert Ingersoll. I liked physiology, but hated algebra, drawing and manual work."

M. "I lost all interest in mathematics at fourteen. I excelled in them before this. I liked physiology and wanted to be a doctor."

M. "I spent my days in metaphysical speculation—whence I came and whither I am going? Where did my dog come from? I was interested in all animal life. A menagerie scene was my delight. I had formulated a theory of animal evolution before hearing of Darwin's. I would rather plan than study. I enjoyed being a leader in playful warfare. I saved up money to buy horses and carriages and get power."

F. "I disliked grammar. I liked algebra, reading and physiology. I always wanted to know the why and reason, and my parents called me crazy."

F. "I was impressed by the solemnity of life. I wondered what the end of man was and whence came the stars and moon and earth. I was afraid of the time when my individuality must take its place in life. I doubted if God could see all."

F. "I've spent hours trying to imagine eternity. I had a definite theory of my own. It seems so silly now. I became very much interested in geography and in natural sciences. I liked to read descriptions of foreign countries and court splendor—my favorites were Napoleon, Cortez, De Soto and the explorers. Languages were very distasteful."

F. "Lay by the streams for hours trying to solve the. mysteries of existence. Whence did I come? Why must I exist? I dreaded the future and thought I was doomed to lead an evil life. Liked natural sciences. Disliked physics and chemistry. Loved literature, physiology and methods, also books on reform. At seventeen I quit dreaming and commenced to like concrete practical work."

F. "I had a whole new world of knowledge and thought. I began to question for cause and effect. How strange things seemed. I was much concerned over the study of a male friend. .I searched new motives and grew morbid over my mistakes. I longed for friends and popularity. I could not drive myself to study of details."

M. "I tried to make everything fit to a set of principles at fifteen."

M. "I was much interested in animal intelligence—did they have souls? Perpetual motion was a hobby."

M. "Disliked algebra, hated Latin. I liked geography and history for imaginative part."

M. "I was greatly agitated over a few questions that I could not settle. What was society for? How can I think? I wanted to be a scientific farmer."

M. "Interested in the why of oceans, stars, moon, lightning, etc. I liked geography but detested grammar. I wanted to travel and went to Colorado."

M. "Memory work became distasteful and I began to like work involving reason—especially measurements in arithmetic."

The fact which strikes one most forcibly in reading these items is that there is born with the adolescent age the tendency to turn the thoughts inward, reviewing over and over the various internal processes of thought and feeling; and there appears also an intense desire to explain and harmonize the varied phenomena in the great universe which appears now to be looming up more ponderously than ever before. Many have in recent times commented upon adolescent introspection and philosophizing, but it doubtless needs to be regarded as an even more important factor than we have been led to think from these writings. It is probable that rapid cerebral alterations, with the opening up of fields that have thus far not been touched by plow or harrow—it seems that these changes hasten on with great rapidity the desire to comprehend the world as a whole, and to transcend the narrow environments which are now seen to be limiting the view of the individual. It must be true, of course, that by virtue of the very process of development the individual comes more and more to look within himself, and also to take a broader view of things outside; but this tendency seems to be precipitated, so to speak, by the phenomena of adolescent growth.

With other changes comes a change in ideals. In the earlier years children are naturally attracted most strongly, and therefore influenced principally by, the things in their immediate environs. Some man whom they know in the community is their idol for various sorts of virtues—for his geniality, for his courage, for his fine appearance, or for some other characteristic more or less trivial it may be which yet appeals with force to child life. But with a larger view of the world, which comes from education in and out of school, it is but to be expected, of course, that idols will be farther removed from local associations, and will become more truly idealistic. But it seems that as in the instance above, so here—this thing which comes naturally but slowly with growth is greatly accelerated during the period of adolescence. As bodily development is wonderfully increased at this time, so it seems likely that mental development is hastened with a rapidity unparalleled in ante or post-adolescent experiences.

It is interesting to see from these reminiscences that the character of the ideals is in harmony with the tendency to philosophize. Children are now particularly interested in historical personages—Cæsar, Napoleon, Washington, Lincoln. Sometimes men who have achieved great success in any field demanding courage or leadership are idolized—as Corbett, Sanger, Anson, Shaw, and others. Miss Darrah's* studies show that both boys and girls are fascinated by masculine qualities exhibiting unusual daring, intrepidity, strength, feats of bravery, and excellence in games involving danger, as football, and the like. The reading reveals the same characteristics. The books read deal most largely with travel, exploring, adventure, and the like. Mr. Thurber's studies seem to indicate the preference of the adolescent for this same sort of literature. History and geography, studies which minister to the budding interest in the men and things of all times and places, now have an especial charm, while grammar and algebra are hated by many.

III. Emotional phenomena.

M. "Irrepressible happiness. Longed for something beyond real life. Began to doubt. Skeptic. Would think I knew of God and an incident would scatter all. Vacillated between dogmatism and skepticism. Mental depression almost unendurable at eighteen. Sometimes it would last a week. Anger would vent itself in a fit of rage. I was sullen and vain. I often went to sleep with the fears that I would never wake."

M. "I was greatly distressed at the famine in China. I became an atheist at seventeen without any word or teaching of others. Kept it secret from my parents. I thought something great was awaiting me, but I lost hope on a slight cause. I showed extreme anger at the least provocation. If I stubbed my toe I smashed the rock. I had horrible fear of the dead and the supernatural. I longed to be a musician and drive fine horses by admiring crowds."

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*Popular Science Monthly, May, 1898.

F. "I liked to help others especially older people. I could not bear to quarrel. I joined the church at a revival meeting. I was uncharitable in mistakes of others. I started many stories in this period, but never finished one. I really commenced everything with enthusiasm, but never persevered. I had the most desperate dread of death. I could not bear to think or speak of it; hence I disliked physiology—my hobby at this time was woman's suffrage. I wanted always to go on an exploration trip into Africa. I thought it would be great to be the first woman president of the United States. I wanted white hair and planned a life of one hundred years."

M. "Converted at fourteen. Quit smoking and drinking. Woke in a sweat thinking I had broken my pledge. I began to wonder if I would be saved. I thought I was destined for religious service. My ideas of God were very unsettled until eighteen. My mother, pastor and friends talked to me during these doubts and helped me much. The struggles with temptations were worse than the doubts."

M. "I doubted my father's faith and doubted the existence of a God, but my mother told me to believe and I could not conceive of her believing anything that was not real. Periods of boisterous mirth were followed by others of gloomy quietness. An unkind word caused despondency. I often expected to be found dead in bed. I wanted to be admired and pitied. I was afraid of anything, of solitude, snakes, etc. to recite. I can never forgive the harsh treatment of my father. I often lied to escape whipping."

F. "Morbid and unhappy, disagreeable, morose. It was very difficult for me to keep up with the class. I had so much pride that I overworked myself. I was converted at sixteen and ever since have been happy and social, but not religious."

F. "I had a period of early doubt. I joined the church at fourteen. Generally I was jolly, but at times was very miserable. These periods came when I was sick. They were periods of deepest gloom and lasted about two days. I considered myself friendless, unloved, useless. I almost dared to wish to die. Reproof brought tears. Wanted to be in the kitchen or hide and would not go near the parlor. I was tired at school. Teasing agonized me. I wanted to be an artist and travel. I am now content and happy."

F. "Converted at thirteen. I never doubted God and was always cheerful. I was apprehensive always of something dreadful going to happen to me or my people. I could never bear to look at a newspaper for fear of seeing some dreadful account of murder. I dreaded to hear of diseases and always expected to catch them. I wanted to grow beautiful and marry a rich noble."

F. "Passionately longed to be loved. At fourteen I sobbed at night and begged God to give me love and make me pure. I was either moody or hilariously happy. Planned my own funeral. Intense love for nature. I was confirmed at fourteen. I wanted to sacrifice everything for Christ. I began to doubt him at seventeen. Reading Emerson suggested these doubts. My doubts are not yet cleared up. I was insanely jealous and morbidly sensitive. I was intensely interested in politics, prohibition and woman's rights and actually organized clubs."

F. "Gloomy and moody—lavished great interest on friends—loved passionately. I was religious until twelve; then began to wane and keep away from the church. I had a terrible season of doubt at sixteen. I lost everything for a while, even the existence of God. I clung to my teacher like an anchor."

M. "Became agnostic from reading Ingersoll and Paine. I was never converted or joined any church, but began to believe in God again due to reading Swing and MacCauley. I dreaded robbers."

M. "I still have a hate of a man who punished me. I was almost converted by reading Dwight Moody."

M. "Violently in love, it affected temperament, sleep and appetite. I continually tried to do all the good I could. I was intensely religious for a while, but soon lost it. I wanted to be morally clean. I thought of this for hours at a time."

M. "Sometimes I wanted to be a saint, sometimes an outlaw, and at one time a president of a college. I had the most terrorizing fears. I lay awake in fear of a comet. I loved Schopenhauer and Carlyle. Had a badly humored nature."

M. "Woman became a mystery to me. I had never thought of it before. I spent my whole thought on it now."

F. "Great religious fervor and conversion at fifteen."

F. "Carried my religious ideas into school."

From the earliest times people have regarded the period of adolescence as marking an important transition in the development of the individual from a self-centered, egoistic being to one who has greater interest in and respect for the welfare of others. That is to say, the child now leaves behind him childish things and adapts himself to the demands of society; he comes to appreciate more fully the necessity for co-operation and harmonious adjustment with his fellows in all of the relations of life. Even the most benighted races fill the adolescent period with ceremonies which are designed to impress upon the budding man or woman the cardinal virtues of honesty, obedience, and courage. In order that nature may accomplish this great feat of transforming a selfish individual into an altruistic one, it seems to have been necessary to institute this epoch of upheaval in the emotional life, which is indicated so strikingly in the reminiscences, and which has been the characteristic of adolescent growth which has been most commented upon by modern investigators. There seems to be at this critical time an obscuration of old paths, and an opening up of many new ones. To secure any great rapid change in the mental life of a person it is probably essential that there should be some disturbing factor such as we see in adolescence, which will lift him, so to speak, out of old grooves and make it possible for him to strike out in new directions. Of course by the very nature of growth there is greater or less opportunity for continual change, since new areas of the brain are beginning to function from time to time, and growth is occurring in all parts which renders habit a less serious factor in blocking advancement; but during adolescence these conditions which encourage modification in things mental seem to be concentrated into a brief space, and so make progress, or possibly degeneracy, so much more rapid.

As a result of these tendencies of adolescent growth the individual is in unstable equilibrium. At one time he is greatly exalted in his emotional life, at another time he is as greatly depressed. Religious enthusiasms are now very frequent, as are also religious doubts and skepticism. Ambitions are far more intense than they have been up to this time, and ideals are more clearly marked and greater effort is made to attain them. Intensity is the word which describes the life of the individual during this period. The particular direction which his enthusiasms take is probably decided more largely by the models in his environment than by anything else; although many believe that now ancestral traits make their appearance more markedly than at any previous time, and really determine the bent of the adolescent's emotional life.

It is a rather remarkable fact, and one to be regretted, that these reminiscences recount the unpleasant and disagreeable things of life. It seems to be generally the case that it is the unhappy events which we recall under such circumstances. Is this because these are the experiences which are talked about most in daily conversation; or do they really leave a more lasting impression in childhood? Pierre Loti's "Romance of a Child" furnishes an illustration of the tendency in mature life to reproduce in reminiscence those remembrances which have had associated with them paineful memories. Whatever may be the cause of this, it at least suggests the importance of ridding early life to the fullest extent possible of the occasion for such remembrances; for when they are so prominent in memory as they are in these reminiscences they cannot fail to have a more or less depressing effect upon after life.

A word perhaps should be said from this point of view regarding the training of the adolescent boy and girl. When one considers how full of storm and stress, of struggle and tension, this age is, he sees the explanation of characteristics in the high school pupil which are apt to perplex and annoy if the reason for them is not comprehended. This is the "smart" period of life, and the actions which it inspires are very apt to arouse antagonism in the instructor, who then comes easily to the belief that rigid discipline would be a most wholesome tonic. A person who has this attitude toward the activities of high school boys and girls, or even university students, will find himself in unceasing trouble; but if, on the other hand, he could look upon these things as the normal expression of a process of growth and has confidence that in time the boy or girl will leave them behind, he will be much more tolerant of digressions and excesses and have greater genuine success in his training. We need to have faith that if the adolescent be surrounded with a wholesome environment he will pass through this affected, vacillating period and reach in time a plane where there is greater poise, control, and less boisterous self-assertion. We probably do not as a rule make as great effort to adapt ourselves to the needs of our pupils at this time as the kindergartner for instance does to those of her children. She recognizes that in many ways the young child is deficient and defective when compared with the adult, but she appreciates that in the process of normal growth the deficiencies will be supplied and the defects outgrown. It seems probable that the adolescent age is as distinct a one in the presentation of characteristics which mark the individual off from the adult as is the kindergarten period. An appreciation of this in the instructor will lead him to attach less importance to apparent eccentricities and departures from righteous conduct; and he will continually lay greater emphasis upon right lines of activity which may be found in the lives of his pupils and less upon the unworthy traits, believing that by letting these latter alone in large part they will tend in the main to die out. Mr. Stapleton's observations* upon adolescent boys has confirmed a belief which is very happily growing stronger every day in the public mind—that the very process of growth implies generally a constant ascent from lower to higher things, and that it would be wiser in the training of our children to pass lightly over the bulk of disagreeable activities instead of making them all occasions for rigid discipline, thus really emphasizing and so impressing them more deeply.

We are coming to feel strongly in these times that adolescence is an era for action rather than for acquisition, although doubtless the two should complement one another. We have probably, however, been attaching too great importance to the acquiring of knowledge and too little to the realization of this in conduct. It has been intimated in another place that this is not the time for prolonged application to details; and if we had more of physical activities in and out of school during adolescence, this requirement would be complied with. We shall appreciate more fully in the future, I believe, than we do now that games and plays should constitute a part of the regular high school curriculum—the games which have been evolved in the development of the race as a means of conveying children through this and other periods where bullying and kindred phenomena are prominent characteristics.† Such games as football give opportunity for the expression of the instinct for capturing and conquering without giving full play to it in its worst features; it affords opportunities to exercise the *activities* without at the same time indulging the motive of doing injury to another. That is to say, it is under law. So boxing, wrestling, and games requiring physical skill as bowling, baseball, and billiards —these and others of the same kind are of the greatest value during the adolescent period in giving direction to the instincts and energies which make their appearance so forcefully at this time The sooner we realize this and provide for these things in the home and school the sooner will it be possible to keep the interest of boys and girls centered there rather than in the places to which these activities are usually relegated. It is a remarkable circumstance that some of these games which are so attractive and so valuable in the individual's physical and mental development have been looked upon by people as harmful, and have consequently become associated with degenerating practices, such as drinking and other forms of dissipation. In the university one sees the unhappy effect of not providing billiards and similar games for the young men, in consequence of which they go to the saloons and other unwholesome resorts where evil actually exists; but the evil is in the environments and not in the billiards or in the bowling or in the cards.

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*See a fine article on Bullying and Fencing, by Frederick Burk, Pedagogical Seminary, Vol. IV.

†Northwestern Journal of Education, 1897-8.

As in the training of young children so with the adolescent, probably the greatest requisite is a profound sympathy in the instructor. This makes all things possible. Mr. Stapleton tells how it saved one of his boys; and the story which he tells could be duplicated by every sympathetic teacher in the country. Perhaps if we could remember our own adolescent experiences and recall how much genuine sympathy did for us, we would extend more of the same thing to our pupils. Of course sympathy must not be confounded with laxity or indifference or indulgence, or anything of that sort. Sympathy can be severe when severity is required; but it is not severe all of the time, and it never administers correction for the gratification of self-will, but simply for the good of the one who is punished. A genuine feeling for the adolescent will, I believe, give confidence that disagreeable manifestations are an incident of growth, not the thing itself; and if he be kept in a rich, inspiring environment, he will gradually leave behind these lower strata for higher realms.

M. V. O'SHEA.

SCHOOL OF EDUCATION,
UNIVERSITY OF WISCONSIN.

SOME THOUGHTS ON FICTION AS A FACTOR IN EDUCATION.

It must be evident to every one who takes note of the main current of contemporary thought that it is essentially materialistic. "Otherworldliness" is one of the least prominent characteristics of the present generation. It is bent on having a good time in this world, be the consequences in the next what they may. In education the cry is "Teach facts," and by facts as thus understood are always meant external phenomena rather than the experiences of psychic life. It is demanded of teachers that in their instruction they shall lay the chief stress on those things that can be weighed and measured and counted. A liberal education, one that is not a direct aid to getting on in the world, has almost come to be a thing of the past.

In view of these conditions it will be interesting to take a passing glance at the part played by fiction, the culture of the imagination through poetry and novel, in the education of the human race. Let us begin with the people that may justly be regarded as the torchbearers of civilization. Such a survey, however brief, must make it plain that the fictitious element in literature has been a very potent force in human progress—much more so than what is usually called history. So much that is subjective is injected into all history and biography that rises above the grade of mere annals that if the reader had not the names of leading characters to guide him he would sometimes fail to suspect that two writers who are professedly dealing with the same period or persons are doing so in reality. History, if of any value, must set forth the truth; yet as a matter of fact almost all history is rewritten two or three times in a century, and always according to a standard more or less determined by the personal equation of the writer. Less than half a dozen historical works produced within the last three or four generations are still regarded as well worth reading. While it is true that time has not dimmed the luster or impaired the value of some of the histories that have survived from pre-Christian times, it might be said of at least a few of these that they are the only records we have. If we are unwilling to accept their testimony there is nothing to put in their places. Plainly, then, the student of history is rarely certain that he is dealing with facts, and sticklers for facts can hardly hope to find them except where they can be brought under their personal observation.

A careful study of the laws of the physical universe and their application to the affairs of life has probably done much to increase the happiness of mankind; yet as we have no method by which we can measure pleasure and pain, it would be rash to affirm this with positiveness. But it cannot be denied that our knowledge is far in advance of our practice. Would it not be a fortunate thing for the world if not another new discovery were made for a hundred years to come? to the end that men would have time to make full use of what they already possess. If progress in this direction were barred, the next two or three generations would have time to exploit fully and in a practical way the truths that are already common property as well as to give the more earnest heed to man's spiritual and moral needs. The saddest reflection suggested by history of mankind is that their knowledge was always far in advance of their practice.

The imagination has played a large part in the drama of human life and has had much influence in shaping the destinies of nations. It enables men to put themselves outside of their bodies and above their *milieu* where they may realize with the greater vividness the hopes, feelings, emotions and sentiments of their fellow beings. When the imagination is kept under the control of the reason and trained by logical methods so that it shall not run into the wild extravagances that characterize the literature of the East as exemplified in the Arabian Nights, it is man's noblest faculty. Its influence in art, in literature, in morals, even in science, cannot easily be overestimated. The grade of civilization that a people has attained can be measured by the imaginative literature it has produced and delights in. Such being the case the culture and training of the imagination ought to receive a large share of the attention of educators.

It is a commonplace saying among intelligent persons that the ancient Athenians were the most cultured people of which we have any knowledge. The evidence is of a very varied character. The most convincing is furnished by their art, their literature and their philosophy. But there is other evidence of a less direct and tangible character. Litigants pleaded their own cases in the law-courts. There was in Athens a class of men whose functions corresponded in some measure with that of the modern attorney-at-law. But they extended no further than the writing of pleas. These were committed to memory by the litigants and spoken before the jury. There are still in existence a number of such pleadings that are classic in form, though the questions at issue are frequently trivial. The speakers are often men of low degree, sometimes of the lowest, yet they had sufficient intelligence to put their case before the jury with vigor and effectiveness. And these juries always consisted of hundreds, sometimes of thousands of citizens. How many lawyers of our day are able to prepare pleas that are worthy of a moment's consideration as to beauty of form? A lawyer with a style is about as often met with as a white elephant. And how many modern juries composed of but twelve men chosen at random can distinguish between grammatical and ungrammatical language? Not one in ten thousand. How many citizens who are not professional speakers could be found even in our most intelligent communities who would undertake to plead their own case before the ordinary jury, to say nothing of a large audience, no matter how carefully they had prepared beforehand? We are forced to conclude that almost every male Athenian adult, and to a considerable extent every educated Greek, was an orator. Take for example the numerous orations scattered through the works of their historians. We do not need to assume that the speeches recorded were those actually delivered; but we shall not go far wrong if we accept them as embracing the spirit and substance of what was said. Most of them, especially those found in Thucydides, exhibit a grasp of the situation, a discernment of motives, a keenness of analysis and a lucidity of exposition that not only bear the marks of verisimilitude, but testify likewise to the splendid intellectual training of the speakers. This was chiefly due to the social conditions that prevailed in Greece, particularly in Athens. Nearly all the Greeks laid great stress on the ability to speak well. The dialogue plays a conspicuous part in Greek literature—it is intended to be spoken and listened to rather than read. The social habits of the Greeks, their eagerness to know—which is but a refined form of curiosity from which it always springs and above which it often does not rise—prompted them to investigate every problem they encountered, while the paucity of books made them as eager to listen as they were themselves ready to contribute something to the discussion. So late as the time of the Apostle Paul there was no lack of persons on the *qui vive* for what a stranger might have to say. Under such conditions every conceivable problem of human interest was discussed in a semi-public way, while problems of a more abstruse character received the careful attention of smaller coteries of philosophers. No one need be told what a superlatively excellent mental discipline it is to be associated with persons who habitually express themselves with precision and conciseness, nor how much our modern life loses in this respect by the reading habit. The finest thoughts are only half comprehended. Little time is taken for reflection and none for reproduction.

If by education we mean the putting in action all those forces that enlighten and discipline the understanding, stimulate the power of thought and cultivate the taste, the ancient Greeks had formulated, in a large measure unconsciously, an educational system that has not been surpassed, probably not equaled. When we consider the small number of free citizens that Athens contained at any one time and the extraordinarily large proportion of great men among them we are compelled to admit that a like condition of affairs has never existed since. Indeed it is doubtful whether during any one century in the history of the world there have lived as many men that have exercised so profound an influence on human thought as those who spent the whole or part of their lives in one small city in the century that was about equally divided by the year 400 B. C.

What will seem most surprising to many persons is the fact that this intellectual pre-eminence was produced upon what would now be regarded as pitifully meager pedagogical material. This consisted of little else except the Homeric Poems and political institutions of such a type that the intellectual powers of those living under them were stimulated to the utmost degree. The Greek people were in a large measure educated in fiction. Of course there is fiction and fiction. There is a fiction that is true to life and there is a fiction that is but the wild product of an uncontrolled imagination. Greek fiction was true to the reality. It portrayed the passions, the desires, the emotions of real life; conjugal fidelity, romantic love, parental and filial affection, grief for the dead, personal bravery, indignation at real or supposed grievances, cunning, fortitude, patriotism, resignation, and so on. Well might their greatest critic, "the leader of the sapient throng," say that poetry is more philosophical than history. He explains that it is not the purpose of the poet to set forth reality, but rather that which is possible according to the laws of probability and necessity. Though Greek fiction, or poetry, if that name be preferred, attained its final and classic form in the Iliad and Odyssey, we know from the tragedies and from other sources that these Poems represent a comparatively small part of an immense mass of similar tradition. Owing to the innate propensity of the human mind for concrete thinking, names stand for types. Thus the poet arouses an interest in his men and women when clothed in flesh and blood and named that could be affected in no other way. Impersonal character studies are to most people insufferably dull reading. To the majority of the Greeks their national heroes were real persons, and some of them may have been so; but others judged more correctly; yet even with this deduction their legends had their interest and value, as they still have. They are portrayals of Greek life, thought, and institutions. They could be scarcely less true if such persons as Agamemnon and Achilles, Hector and Andromache, Ulysses and Penelope, and many others never existed. In this respect they are to be classed with the great novels of which the present century has produced such a number that it seems invidious to name any. It would be hard, if not impossible, to recall works professing to be history that are truer to life than Waverly, Guy Mannering and Ivanhoe; than Tom Jones or Lorna Doone or Romola. What single book gives the reader a more just idea of the means by which France was consolidated than Quentin Durward, or of the character and last days of Charles the Bold, than Anne of Geierstein, or of the morals of a certain class of Englishmen and English women during the Napoleon era than Vanity Fair, or of the feelings of the common people during the same period than the Erckman-Chatrain novels? In all these, the purely fictitious is no more than the frame in which the picture is set or the canvas on which it is painted. It may be compared to the sugar coating on the pill. The medicine thus disguised is easier to swallow while its efficiency is not in the least impaired. The life of Washington is none the less instructive if the story of the hatchet be a myth; or that of Tell if he never existed. The tragic death of Antigone as represented by the poet for performing what she believed to be a pious act moves us just as profoundly as the closing scene in the cell of Socrates as narrated by the historian. For the culture of the mind and heart, psychological truth is more valuable than the historical verities because it is neither limited in time nor confined by space.

Hamerton has well stated the case when he says, "Thackeray and Balzac will make it possible for our descendants to live over again in the England and France of to-day. Seen in this light the novelist has a higher office than merely to amuse his contemporaries; he hands them down all living and talking to the remotest ages." Thackeray himself said, "Out of the fictitious book I get the expression of the life, of the times, of the manners, of the merriment, of the dress, the pleasure, the laughter, ridicule of society; the old times live over again and I tread in the old country of England. Can the heaviest historian do more for me?" If we desire to harmonize our conduct with the moral order of the world or contemplate the manifestation of the laws of beauty and truth we can find lessons anywhere and everywhere. The common people of mediæval Europe fed the cravings of their moral nature almost entirely on fairy tales and legendary lore of a similarly unhistorical character. Amid the social chaos of a thousand years the sagas of the Nibelungen Circle, the stories of the knights of the Round Table and the myths that had attached themselves to the name of Charlemagne—the last two especially—are noteworthy for the moral qualities that pervade them, in spite of much that grates harshly on modern nerves. The Gesta Romanorum and Æsop's fables with their numerous progeny are more prosaic, more allegorized and more directly didactic. While much of this literature has its somber side I recall but one popular allegory that sets forth in detail the career of the successful villain, namely, Reynard the Fox. Usually their authors linger with evident satisfaction on the virtues of courage, fidelity, charity, self-sacrifice, chastity and their kin. They rarely fail to make prominent those higher aspirations that dwell in the bosom of almost all men and at times influence even the worst. These mediæval tales when retold as they are by Gustav Schwabe in his nine little volumes of Deutsche Volksbücher, are not only attractive but instructive and entirely unobjectionable.

Just as we can gauge the culture of an individual by the kind of fiction he reads when left to his own choice, so we can, at least in a great degree, estimate the moral qualities of a nation by the imaginative literature on which it feeds. It is perhaps unduly venturesome to pronounce a judgment upon a people's literature except after very wide reading, yet I am compelled to believe that there is a sad lack of that imaginative factor in French literature, including its poetry, as well as in that of the Latin nations generally, which discerns intuitively the moral order of the world and seeks to represent it concretely both in the life of the individual and the social group. No German or English poet would treat the memory of a national character of such prominence and sanctity as Joan of Arc, as Voltaire, the greatest name in French literature, has treated hers.* French fiction is primarily scientific in spirit; then æsthetic in form, and only lastly ethical in purpose. In English fiction these three attributes are reversed. Of Germany's great literary trinity, at least two members, Lessing and Schiller, persistently keep the moral element in the foreground, while Goethe divides his attention about equally between three factors. Is it too much to say that the remarkable growth and expansion of the Germanic peoples, especially those whose native speech is English, as compared with the static condition of the Latin races, is largely due to their view of life as reflected in their imaginative literature? The person who fears not God nor regards man seems to be a favorite character in French fiction. Not so in English. The English have the reputation of being eminently practical; but certainly in their fiction they are idealists. The ever recurrent theme, one on which constant changes are rung, is the need of moral and social regeneration. In the realm of the imagination no leading part must be assigned to the man or woman that is out of harmony with the moral order, by a writer who seeks popularity. What is morally hideous must be kept in the background. In French fiction the conditions are largely reversed. The villain is a favorite character; the social conditions amid which he moves and thrives, a favorite theme. Noble characters are not lacking, but they are too often weak; they arouse our sympathy more than they excite our admiration. They seem to be created only to provide victims for the strong and wicked.

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*After writing the above, I came inadvertently upon the following passage from the works of Matthew Arnold: "When we look at the popular literature of the French at this moment and at the life of which this literature of theirs is the index, one is tempted to make a goddess out of a word of their own, and then like the town-clerk of Ephesus, to ask, 'What man is there that knoweth not that the city of the French is a worshiper of the great goddess Lubricity?'"

We are told that the consummate artist must neither preach nor teach. But surely if the great object of life is to bring men into harmony with the moral of the world, no sermon or lecture is ever out of place that seeks to harmonize the conduct of men with this all-pervading divine law.

There is another element in recent fiction that is of preeminent psychological interest and that has produced the most far-reaching results; namely, the important sphere assigned to children and young people. In the literature of antiquity they play a very subordinate part. Nor can it be otherwise where the verities of history are the sole object of interest. It is true that Plato and Quintillian have more or less to say about the importance and the method of training children; but the former regards them as a sort of necessary evil, a species of wild animal that needs to be tamed before anything can be made of him. I can recall but one child that is treated with marked interest and affection by a classical author—Virgil's Ascanius. But he too is of importance merely because he is designed to be the progenitor of a royal house. Interest in children and childhood, notwithstanding the prominent place assigned to them in fairy tales, dates from the time of Rousseau. He was followed and supplemented by Pestalozzi and his school. Wordsworth introduces some children in his poems that he has made interesting. Gœthe too brings before his readers a number of boys and girls, sometimes for their own sakes, sometimes because they are indispensable to a writer interested in human life in all its phases. The rise of Sunday-schools called into existence a large number of small volumes the chief characters of which are children; but the life of most of them was as ephemeral as their contents were puerile. Dickens was not only the first author to assign a conspicuous place to boys and girls in his novels, but by far the most successful. He possessed that consummate artistic skill which enabled him to make them thoroughly interesting without making them unnatural. Little Dorrit, Little Nell, Oliver Twist and other of his youthful characters have become household words. It is impossible to estimate the beneficial influence Dickens' writings had upon child life, but everybody admits that it was very great.

Recent French literature shows us some interesting children of both sexes. Little Gavroche in Les Miserables is a masterly study of the typical Paris gamin. But his untimely end leaves a sad impression on the reader. An English writer of fiction would hardly have closed the brief career of the poor waif as Hugo has done. Rose and Blanche in the Wandering Jew are two girls that hold the attention of the reader through a long and somewhat rambling story. In German, Amri and Dami are among the finest mental portraits in the extensive gallery of an author that is deservedly popular in two hemispheres. The novelists had lovingly studied children before the psychologists thought of it; and many of them were quite as successful, if they were not strictly scientific.

America has not been behind the other civilized nations in assigning an important place to children in its literature of fiction. Many of the novels of the last half century are a veritable revelation in this regard. It would be an interesting study for one who had the time and the capacity for such work to extract from representative recent novels the varied conceptions of childhood as set forth by their authors. It would be not less interesting to estimate, so far as thatcould be done, the debt the children of the present generation owe to these delightful studies.

If we were to eliminate from the literature of the world the element that is usually regarded as fictitious all the delightful aroma that pleases and attracts would go with it. Such a process would deprive us of Homer and Virgil and the great tragedies of ancient Greece. It would take from us the Nibelungen sagas, the Divina Commedia, Don Quixote, and Faust. It would expunge the greater part of our poetry and a great deal of our prose. If it did not sweep away wholly the fruitage it would leave us little of the bloom of what men have thought and felt and striven for. It would make the vast field of human experience one dead level of uniformity instead of the varied and instructive panorama of mountain and hill and valley, of sea and lake and river that is spread before us whenever we become absorbed in some literary masterpiece. The serious question is not, Can our boys and girls, and our adults too for that matter, afford to read fiction; it is rather, What fiction shall they read?

As the Roman poet would not voluntarily take refuge under the same tree during a shower nor embark on the same boat with one who neglected the gods, we should with equal prudence stand aloof from those who are unwilling to enter with us the delightful region of the imagination to seek there surcease from the sorrows of practical experience and to gain new strength and new inspiration to sustain us in our labors for the Good, the Beautiful, the Just and the True. Wisely does Thackeray say, "Novels are sweets. All people with healthy literary appetites love them."

CHARLES W. SUPER.

OHIO UNIVERSITY.

NEW BOOKS.

Die Ideenassoziation des Kindes. Erste Abhandlung. Von Dr. TH. ZIEHEN. Berlin: Reuther und Reichard. 1898. pp. 66.

American students of education who read the German—and the number is now large—will be glad to learn of the series of excellent monographs now being edited by Professor H. Schiller of Giessen and Professor Th. Ziehen of Jena. These monographs deal with a wide range of topics and present in concise and readable form the latest researches in pedagogy from physiological and psychological investigations. This particular number by of them was as ephemeral as their contents were puerile. Dickens was not only the first author to assign a conspicuous place to boys and girls in his novels, but by far the most successful. He possessed that consummate artistic skill which enabled him to make them thoroughly interesting without making them unnatural. Little Dorrit, Little Nell, Oliver Twist and other of his youthful characters have become household words. It is impossible to estimate the beneficial influence Dickens' writings had upon child life, but everybody admits that it was very great.

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America has not been behind the other civilized nations in assigning an important place to children in its literature of fiction. Many of the novels of the last half century are a veritable revelation in this regard. It would be an interesting study for one who had the time and the capacity for such work to extract from representative recent novels the varied conceptions of childhood as set forth by their authors. It would be not less interesting to estimate, so far as thatcould be done, the debt the children of the present generation owe to these delightful studies.

If we were to eliminate from the literature of the world the element that is usually regarded as fictitious all the delightful aroma that pleases and attracts would go with it. Such a process would deprive us of Homer and Virgil and the great tragedies of ancient Greece. It would take from us the Nibelungen sagas, the Divina Commedia, Don Quixote, and Faust. It would expunge the greater part of our poetry and a great deal of our prose. If it did not sweep away wholly the fruitage it would leave us little of the bloom of what men have thought and felt and striven for. It would make the vast field of human experience one dead level of uniformity instead of the varied and instructive panorama of mountain and hill and valley, of sea and lake and river that is spread before us whenever we become absorbed in some literary masterpiece. The serious question is not, Can our boys and girls, and our adults too for that matter, afford to read fiction; it is rather, What fiction shall they read?

As the Roman poet would not voluntarily take refuge under the same tree during a shower nor embark on the same boat with one who neglected the gods, we should with equal prudence stand aloof from those who are unwilling to enter with us the delightful region of the imagination to seek there surcease from the sorrows of practical experience and to gain new strength and new inspiration to sustain us in our labors for the Good, the Beautiful, the Just and the True. Wisely does Thackeray say, "Novels are sweets. All people with healthy literary appetites love them."

CHARLES W. SUPER.

OHIO UNIVERSITY.

NEW BOOKS.

Die Ideenassoziation des Kindes. Erste Abhandlung. Von Dr. TH. ZIEHEN. Berlin: Reuther und Reichard. 1898. pp. 66.

American students of education who read the German—and the number is now large—will be glad to learn of the series of excellent monographs now being edited by Professor H. Schiller of Giessen and Professor Th. Ziehen of Jena. These monographs deal with a wide range of topics and present in concise and readable form the latest researches in pedagogy from physiological and psychological investigations. This particular number by

Professor Ziehen discusses the association of children's ideas. The investigation was carried on in the practice school connected with Professor Rein's Pedagogical Seminary at the University of Jena. Forty-five boys, ranging in age from eight to fourteen years were at different periods given lists of words with which they were required to make instantaneous associations; and these lists were repeated at stated intervals. The important conclusion which professor Ziehen reaches in this study is the universality of association by contiguity in early childhood. Association by similarity, he concludes, almost never occurs. Students of the psychology of childhood will read this monograph with deep interest. After Professor Wundt perhaps no German psychologist takes higher rank than Professor Ziehen; and although comparatively young in years he has already made permanent contributions to at least three departments of psychological thought: (1) Physiological Psychology, where he has written one of the best hand-books for class use (and which is so extensively used in American normal schools and colleges); (2) Pathological Psychology, in which his contributions have been numerous and varied, and his exhaustive book on *Psychiatrie*—a standard book in Germany—ought to be translated into English; and (3) Genetic Psychology, to which belongs this study on the association of children's ideas.

WILL S. MONROE.

STATE NORMAL SCHOOL,
WESTFIELD, MASS.

* * *

Die Kinderfehler: Zeitschrift fur Pædagogische Pathologie und Therapie in Haus, Schule und Sozialem Leben. Herausgegeben von Dr. KOCH, REKTOR UFER, Professor ZIMMER und Director TRUPER. Langenzalza: Hermann Beyer und Sœhne.

The defective child is to-day the subject of serious consideration in every civilized land. Since Edouard Seguin and Samuel G. Howe inaugurated this humane movement in our own country, schools—both public and private—have multiplied yearly until to-day scarcely a state in the Union has not its school for feeble-minded children. With us, however, the interest in the movement has been confined until recently to medical men and alienists. In Germany, on the other hand, defective children have long been discussed by pedagogues, and methods of teaching defectives long a part of German normal school instruction. And this tendency is becoming more and more marked in our own country. *Die Kinderfehler* represents the pedagogical interests of defective children in Germany. And although its editorial board is composed of men in different callings, the spirit of the journal is essentially pedagogical. Mr. Truper, who is in reality its editor-in-chief, is at the head of a high-grade school for defective children at Jena. I have often visited his institution and bear willing testimony to my American friends of the excellent character of its work. His associates on *Die Kinderfehler* are Dr. Koch, superintendent in the insane asylum at Cannstatt, Professor Zimmer, who represents the evangelical philanthropic interests in Berlin, and Supt. Ufer, well known in America by his excellent introduction to Herbart. *Die Kinderfehler* is so well edited and contains so much of vital interest to teachers of abnormal children that it ought to be more widely read in our country. Child study is also one of the topics given great prominence and the great army of students of genetic psychology will find it to their interest to consult the files of this journal. It numbers among its contributors Ziehen, Rein, Schiller, Binswanger, and Baginsky of Germany; Ribot, Arreat and Berillon of France; Lombroso, Mosso and Sergi of Italy; Shuttleworth, Sully, Ireland and Beach of Great Britain; Morel of Belgium; Groos of Switzerland; and Lukens, McMurry, Brown, Brockway, Osborne and Monroe of America. Six numbers are published each year and the annual subscription is but three mark (seventy-five cents).

WILL S. MONROE.

STATE NORMAL SCHOOL,
WESTFIELD, MASS.

* * *

An Introductory Logic. By JAMES EDWIN CREIGHTON, Sage Professor of Logic and Metaphysics in Cornell University. New York: The Macmillan Company. 1898. pp. xiv, 387.

There is very little to say about a piece of work that is well done except that it is well done. Professor Creighton's Logic satisfies every requirement of a text-book; it is systematic, clearly and simply written, and even interesting. While written from the standpoint of authors like Bradley and Bosanquet, and thus embodying the results of the best modern thought on the subject, it has the conciseness which has made many teachers of logic cling to Jevons despite his defects; and it is far superior to Jevons in systematic arrangement of material.

The book is divided into three parts: on the Syllogism, on Inductive Methods, and on the Nature of Thought. The discussion of Terms and Propositions, the elements of which the syllogism is composed, falls into the first of these parts. Perhaps the most noteworthy points about this section are the rejection of the expression "Immediate Inference," in favor of "The Interpretation of Propositions," on the ground that no real inference is possible where there is no middle term; and the treatment of Opposition as a form of Interpretation co-ordinate with Conversion and Obversion—A, for instance implying the truth of its subalternate and the falsity of its contradictory just as it implies the truth of its obverse.

The treatment of Inductive Methods adopts the excellent plan of classifying the processes involved in Induction under the heads of Observation and Explanation: the former including Enumeration, Statistical Methods, and Determination of Causal Relation by Mill's so-called Inductive Methods; the latter treating of the use of analogy and hypotheses. There is a full and concise discussion of Inductive Fallacies.

The third part of the book is one of its distinctive features—an attempt to place before the student an account in simple language of the essential characteristics of logical thinking. This is material which has hitherto been presented only in more advanced logical treatises; and its introduction into a text-book cannot fail to give the student a juster conception of the real significance of the science of logic. Judgment is shown to be the fundamental logical process, inference being merely "a reasoned judgment;" and the nature and kinds of judgment are discussed.

Forty pages of questions and examples, many of them new, complete what the present reviewer has no hesitation in calling the best text-book on Logic that has yet appeared.

MARGARET FLOY WASHBURN.

WELLS COLLEGE.

* * *

Paradise Lost. A Poem in Twelve Books. By JOHN MILTON. With an Introduction and Notes on Its Structure and Meaning by JOHN A. HINES, Professor of English in Pennsylvania College. New York: Harper & Brothers. Post 8vo, Cloth, $1.20.

In this edition of *Paradise Lost* the editor has attempted to set forth clearly the structure and meaning of the poem. Accepting the poet's own view of his poem as an attempt to justify the ways of God to man, he has endeavored to show clearly the argument, *i. e.* the movement of thought in the poem. To this end the stages in the action are indicated by head lines characterizing the lines thus grouped together, as for example, 1-26 The Subject, 27-33 The Question, 34-49 The Status, 50-191 The Dragon Bound, 192-282 The Dragon Loosed, etc. The Introduction is a general survey of the plan of the poem with a discussion of Milton's universe and of his conception of the Deity, of man, and of the angels.

The wording of the title-page is alone sufficient to show that this edition was not prepared primarily to meet the demand for a school edition satisfying the requirements as laid down by the committee on college-entrance English. The committee, in suggesting that two of the twelve books of *Paradise Lost* be read in the college-preparatory schools, could hardly have had in mind a study of the "structure and meaning" of the poem as a whole. The college-preparatory pupil is, wisely perhaps, not expected by the committee to gain as the result of his study of this poem a clear conception of the "highth of this great argument" and of the poet's solution of the problem he has proposed. The edition is, however, not therefore unfitted for use in college-preparatory schools. There is abundant philological comment and the pupil may read the first two books in this edition as well as in any other. Disregarding the comment on the "structure and meaning" of the poem as a whole, he may here read the first two books for the music of the incomparable blank verse, or he may write themes on Satan and his crew, or parse man's disobedience and comment on the *mortal* taste that brought death into the world and all our woe, or do anything else the committee may have intended him to do with these two books. And if by chance the boy shall be inclined to read on in order to grasp the significance of the whole, both the text and the critical apparatus will be in his hands. The edition is worthy of commendation.

RICHARD JONES.

SYRACUSE UNIVERSITY.

* * *

SOME RECENT MATHEMATICAL TEXT-BOOKS.

Introduction to Algebra for the Use of Secondary Schools and Technical Colleges.—By G. Chrystal, M.A., LL.D. London: Adam and Charles Black. 1898. xviii, 412, xxv pp.

This work is intended as an introduction to the author's *Text-Book of Algebra*, and his teaching experience of more than twenty years gives him the advantage over most authors of knowing just wherein the older algebras have been defective.

Algebra as it is too often taught lacks that unification which shows the relation of part to part and brings out the underlying general principles. It has been rather a collection of rules and formulæ for the solution of certain types of problems the relation between which not being properly brought out. The present book is an attempt to improve this condition and a careful reading, I think, will show that the author has in a good measure succeeded. He rightly holds that algebra should begin in arithmetic or before arithmetic is finished. The topics found in elementary text-books are here treated, though the order in which they come is not that usually followed. Many examples are given, some of which are intended as a sort of introduction to succeeding theory. One of the prominent features of the book is the use of graphic methods which give the student clearer and more permanent ideas with regard to many of the subjects. Fundamental principles are prominently set forth from the beginning and general principles are usually fixed by special cases.

An Algebraic Arithmetic.—By S. E. Coleman, B.S. New York: The Macmillan Co. 1898. 8vo, 151 pp.

This book presupposes a knowledge of elementary arithmetic and is an exposition of the theory and practice of advanced arithmetic based on the algebraic equation. After explaining in chapter I. the use of letters to denote numbers, and the equation and its solution, the author in chapter II. treats briefly the fundamental operations. The remaining chapters treat of percentage and its applications, proportion, partnership, average of payments, involution and evolution, and mensuration.

The greater part of advanced arithmetic should come after the student has had elementary algebra. There is no well defined boundary line between the two and the author is correct in his idea of treating advanced arithmetic by means of the equation. The student who goes carefully through the book will have a fair knowledge of the solution of those problems which he will meet in commercial life and at the same time have an introduction to elementary algebra.

Analytical Geometry for Technical Schools and Colleges.—By P. A. Lambert, M.A., Instructor in Mathematics, Lehigh University. New York: The Macmillan Co. 1897. 8vo, 216 pp.

In the selection and arrangement of the material in this text-book the author has followed French rather than English usage. After an introduction to rectangular co-ordinates he devotes a short chapter (15 pages) to the straight line, circle and conic sections, developing but briefly the fundamental properties. The next two chapters (32 pages) are devoted to the plotting of algebraic and transcendental equations. Here he lays a good deal of stress on a part of the work which is too often insufficiently treated in text-books. Students of engineering and physics will find a good drill in plotting those equations which they so often meet. Some portions of the chapter, however, would seem too difficult for a first reading. After devoting a chapter each to the transformation of co-ordinates and to polar co-ordinates he gives in the next three chapters (52 pages) the analytical treatment of the straight line, circle and conic sections, after which comes a chapter on the general equation of the second degree. In the later chapters of the book he treats of line co-ordinates, cross ratio, graphic representation of imaginaries and gives an introduction to geometry of three dimensions. After reading the book one will feel, I think, that the best part is the chapters on curve-tracing. The rest seems almost too incomplete to be thorough. In assigning to Argand the first representation of the complex variable by a point in a plane he evidently has not heard of Caspar Wessel's memoir to which attention was called in 1895 by Mr. S. D. Christensen.

The Public School Arithmetic.—By J. A. MCLELLAN, A.M., LL.D., and A. F. AMES, A.B. New York: The Macmillan Co. 1897. 346 pp.

The appearance of *The Psychology of Number* by McLellan and Dewey a few years ago created no little stir in pedagogical circles, and now we have an arithmetic based on the ideas set forth in that work. Number is looked upon as measurement and this idea is kept constantly in view throughout the book, unifying as the authors claim, the fundamental operations and the whole of arithmetic. Whether one agrees with these views or not he cannot help but appreciate the consistency with which they are carried out. The philosophy of the fundamentals of arithmetic is difficult and there is far from a uniformity of opinion with regard to it. This being true, but few definitions which involve the philosophy should be given to young pupils. When a definition is given it should be philosophically and scientifically correct, and if so, the young pupil could not comprehend it. It would seem therefore that some of the definitions which are found in this book should be left out, or else relegated to an appendix. Aside from the philosophy underlying the subject the problems are well selected for practical purposes and the student who works carefully through the book should have a good working knowledge of arithmetic.

W. H. METZLER.

SYRACUSE UNIVERSITY.

* * *

A Study of English Prose Writers.—By J. SCOTT CLARK, A.M., Professor of the English Language and Literature at Northwestern University. New York: Charles Scribner's Sons. Crown 8vo, 800 pp.

A book which embodies the method of an eminently successful teacher is always welcomed by the teaching profession. Professor J. Scott Clark of Northwestern University has just published under the above title the method resulting from eleven years of class room work. The book discusses twenty-five leading authors, beginning with Francis Bacon and including the most prominent American as well as English prose writers.

In his preface Professor Clark states that "the method has grown out of dissatisfaction with results obtained under the old methods of teaching English and out of the conviction that such a revolution as has taken place in the study of all branches of natural science during the last quarter century is both possible and necessary in the study of English. Just as the pupil has come to study oxygen and electricity and protoplasm and not merely what some one has said *about* these, so he must learn to study the masterpieces of style themselves and not merely what some one has said about them."

It is Professor Clark's method to assign to each member of the class about forty pages from the author's representative works and, as no two pupils are given the same portion, the field covered is very wide. As he reads his section the pupil observes uncommon words and those used with peculiar aptness, idioms, rhetorical figures, connection of sentences and of paragraphs, simplicity and rythm. He then indexes in his class report the best illustrations under each of these heads, and computes by actual count of a page the proportion of Anglo-Saxon words used.

Under the heading, "Particular Characteristics," is given a wide selection from the best critics upon the distinguishing features of each author's style. Following the criticism of each peculiarity of an author are several selections from his own works illustrating the characteristic. Guided by the crisicisms and illustrations thus given, the pupil reads his section, and indexes his best illustrations of each characteristic in his class report. The recitation hour is spent in examining and comparing these reports, in calling out the best illustrations of each peculiarity, and in answering questions.

Professor Clark's book is to the highest degree definite and practical. Even the pupil most lacking in literary instinct must carry away from the course here outlined something more than glaring generalizations. Moreover the great breadth of criticism offered eliminates the possibility of imparting a narrow or a prejudiced view. The book will doubtless be severely judged by those who decry the use of any mechanical means in teaching literature. In discussing a dozen or ten dozen isolated characteristics of an author's style much that is most vital must remain untold. Indeed all literary criticism must fall short of its object, inasmuch as the work considered possesses that spiritual element which is undefinable and to many minds irrecognizable. If a piece of literature is great because it expresses spiritual truths which to ordinary mortals are inexpressible, the intangible element is not likely to be made any clearer by critical exegesis. Just here the teacher must step in with the quickening power of his own artistic appreciation. This method in the hands of a teacher of that spiritually re-author has followed French rather than English usage. After an introduction to rectangular co-ordinates he devotes a short chapter (15 pages) to the straight line, circle and conic sections, developing but briefly the fundamental properties. The next two chapters (32 pages) are devoted to the plotting of algebraic and transcendental equations. Here he lays a good deal of stress on a part of the work which is too often insufficiently treated in text-books. Students of engineering and physics will find a good drill in plotting those equations which they so often meet. Some portions of the chapter, however, would seem too difficult for a first reading. After devoting a chapter each to the transformation of co-ordinates and to polar co-ordinates he gives in the next three chapters (52 pages) the analytical treatment of the straight line, circle and conic sections, after which comes a chapter on the general equation of the second degree. In the later chapters of the book he treats of line co-ordinates, cross ratio, graphic representation of imaginaries and gives an introduction to geometry of three dimensions. After reading the book one will feel, I think, that the best part is the chapters on curve-tracing. The rest seems almost too incomplete to be thorough. In assigning to Argand the first representation of the complex variable by a point in a plane he evidently has not heard of Caspar Wessel's memoir to which attention was called in 1895 by Mr. S. D. Christensen.

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A very valuable feature of this book is the very complete bibliography of the criticisms and estimates of each author discussed. Two more volumes are promised in the near future; "one treating in a similar manner the style of twenty-five English and American poets of the first rank, and the other devoted primarily to Shakespeare and secondarily to a concise treatment of many poets and prose writers of lower rank."

W. D. LEWIS.

PRESCOTT SCHOOL,
SYRACUSE, N. Y.

* * *

THREE RECENT PUBLICATIONS FOR STUDENTS OF ENGLISH.

From Chaucer to Arnold. Types of Literary Art, with preface and notes by ANDREW J. GEORGE, A.M. New York: The Macmillan Company. pp. xxxiv, 676.

Students' Readings and Questions in English Literature. By HARRIET L. MASON. New York: The Macmillan Company. pp. 85.

Elements of Literary Criticism. By CHARLES F. JOHNSON. New York Harper and Brothers. pp. 288.

Definiteness of aim and directness in stating the end in view are notable features of some recent volumes concerned with English literature. One of these has the descriptive title, *From Chaucer to Arnold, Types of Literary Art in Prose and Verse*, an introduction to English literature, with preface and notes," and the preface adds that the volume "illustrates the work in preparation for the study of the great writers, in verse and prose, who have made the most distinct contribution to English literature and life. . . The book is thus intended to be an introduction through types." This aim answers to a long-felt need resulting from the limitations of the students' resources in books; if with the design of meeting such a condition Mr. George has provided in this volume complete texts or excerpts illustrative of various periods, forms, and moods of literary expression. One questions the advisability of selecting from the poetry of Spenser, Shakespeare, and Milton lyrics alone, yet perceives that the book "is fairly representative of the best to be found in English literary art from Chaucer to Arnold." Its first service is in offering to the student possession and use of "touch-stones of criticism." In addition, the notes, pp. 621–662, are adapted to be a first step toward a knowledge of the place of each writer in the course of English thought and in the development of style, and to an acquaintance with the critical and appreciative literature dealing with these subjects. Mr. George's own characterizations, as in his description of Adam Bede, "a delightful romance, spontaneous, cheerful, sweet," does not always impress one as felicitous. In the "Messages" the editor brings together affirmations by many thinkers of their faith in the dignity and power of literature; these confessions will of themselves seize and hold the thought of elect students; for others the teacher must interpose.

The *Students' Readings and Questions* is a thin volume offered as a saving of time and labor. It began in class-work in Brooke's *Outlines of English Literature*. Besides a separate list of the reference books, it gives a syllabus of readings and a list of questions on each chapter of the *Outlines*. This booklet is too sparing of effort: it has inaccuracies in the arrangement of columns and in the phrasing of sentences; still worse, it has questions so framed as to call for final answers in cases in which the presentation of the subject in the text is necessarily abridged and incomplete. To give a few from many examples: "How did Pope secure the spirit of Homer in the translation of the Iliad?" "How does modern English differ from the early English language?" The following is suggestive: "In whom here [in America] may Barrie and Maclaren look for the beginning of their humorous stories of Scotch life?"

The first of these books is intended for pupils in secondary schools, the last will more probably be found in the hands of college students. They will give Professor Johnson their confidence, for at the outset he admits that the unconscious and unreasoning enjoyment of literature is most to be desired, and "that in all artistic questions definition and analysis go but little way." He adds, "In literature especially the functions of analysis is merely an attempt to give us a reasonable basis for an enthusiastic enjoyment and love felt before the analysis is undertaken. * * But it is not claimed that any analysis can be final." With this caveat against an overestimate of results he gives a definite and lucid consideration of essential characteristics of literature and of corresponding qualities and powers of the creative mind. The book is a contribution of distinct value.

ISABEL GRAVES.

UNIVERSITY OF PENNSYLVANIA.

* * *

The laudable task that Professor Moulton, of the University of Chicago, has undertaken and nearly brought to completion in his series of small volumes of *The Modern Reader's Bible* is the arranging of the text of the Revised Version of the English Bible according to its appropriate modern literary form. It had long been recognized that the Bible is not a book, but a literature; but to Professor Moulton belongs the credit of giving the thought practical form in articulating by means of typographical arrangement the literary characteristics of each portion of the Scriptures. If the paragraphing of the Revisers, taking the place of the traditional division into chapters, and their arrangement in lines of the poetical portions were justly hailed as a great improvement, what shall we say of this series that carries on this improvement almost to the point of perfection? But Professor Moulton by no means confines himself entirely to the arranging of the text; his introductions and explanatory notes to each volume are highly stimulating and of great service in elucidating the meaning of the authors. The handy form and reasonable price of the volumes should contribute to make the series one of the most popular helps to the study of the Bible. Fifty cents per volume. The Macmillan Company.

It hardly seems possible that anything new can be said in appreciation of Shakespeare, but the two-volume study of his works, by Professor George Brandes, has certainly added valuable information and criticism. The book is translated from the Norwegian by William Archer and published by The Macmillan Co. These two facts are a sufficient guarantee of the scholarly and accurate reproduction of the original. That every one, or that any large number of Shakespeare students will agree with all that Professor Brandes says, is not to be expected. He sets out with a very definite purpose in view, namely, to form "an image of the spiritual experience of which" the plays and poems are the expression; or as he expresses it by a quotation, "I will not let you go until you have confessed to me the secret of your being." In order to find this personality of Shakespeare in the plays, much study of contemporary history and literature has been done, and much information on both subjects has been brought together in these two volumes. A further result is that we are made to see the plays still more nearly as they must have been seen in Shakespeare's own time. Not unnaturally, however, the very concentration of effort has made the plays seem to contain certain things which many of us believe have been read into rather than written into them. But whatever the difference of opinion about details of the study, the book remains a monumental work by an eminent and scholarly man. pp. 816.

* * *

From the press of D. C. Heath & Company we have an excellent edition of Comenius' *School of Infancy*, for which Will S. Monroe has prepared an introduction and notes. In the introduction a brief outline of the *School of Infancy* is given, with the main facts concerning the life of the author. In the footnotes the editor attempts to trace the origin of Comenius' educational ideals and the influence of his writings on later educators. The usefulness of the edition is enhanced by a full bibliography of Comenean literature and by a list of books suited to the use of mothers and teachers interested in the literature of child-study, the kindergarten, and primary education. Like all that Mr. Monroe does, his editing in this case is done with a wealth of knowledge and sound judgment. It is gratifying to note that the awakened interest that teachers are taking in the literature of their calling is making it worth while to undertake the publication in this country of educational classics like the *School of Infancy*.

* * *

No better book on the subject has been written than Landon's *School Management*, a new edition of which has been issued by C. W. Bardeen, Syracuse, N. Y. The work is divided into three parts. In the first there is a general view of the work of education, with a brief sketch of the intellectual faculties. Part second deals with school organization, and the third with discipline and moral training. The reading of the work will be exceedingly helpful to the young teacher.

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